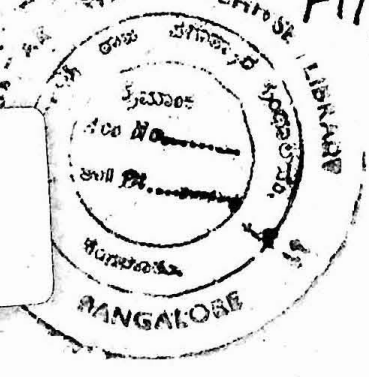
CONFIDENTIAL

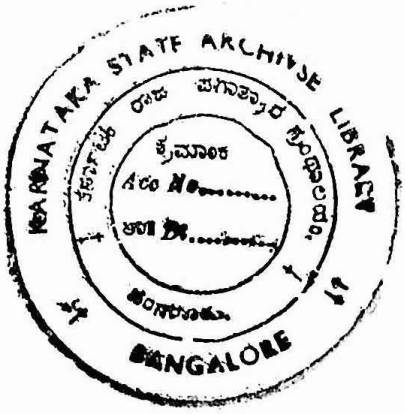
MYSORE PUBLIC WORKS DEPT REPORT OF THE AD HOC COMMITTEE CONSTITUTED IN GOVT. ORDER NO PWD 11 TBP 57 DATED THE 7TH FEBRUARY-1959 FOR REVIEWING THE INTER STATE AGREEMENTS OF RIVER VALLEYS

VOL-II APPENDICES



KSA LIBRARY, B'lore
B021858
351.86 RP 1960
II-34

(B)21858



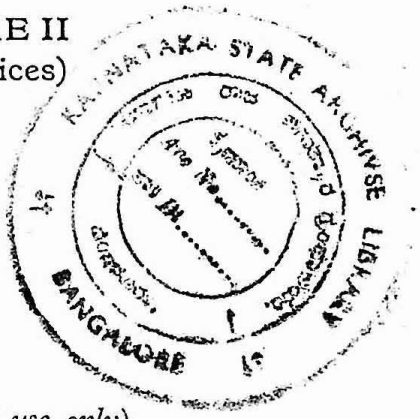
CONFIDENTIAL

MYSORE PUBLIC WORKS DEPARTMENT

Report of the *Ad hoc* Committee constituted in Government Order No. PWD 11 TBP 57, dated the 7th February 1959 for reviewing the Inter-State Agreements of River Valleys

VOLUME II
(Appendices)

GB 021858



(For Official use only)

BANGALORE:
PRINTED BY THE DIRECTOR OF PRINTING, STATIONERY AND PUBLICATIONS AT THE GOVERNMENT PRESS
1960

CONFIDENTIAL

MYSORE PUBLIC WORKS DEPARTMENT

Report of the *Ad hoc* Committee constituted in Government Order No. PWD 11 TBP 57, dated the 7th February 1959 for reviewing the Inter-State Agreements of River Valleys

VOLUME II
(Appendices)

(For Official use only)

PAGE

(15) 1956—Palar Waters Dispute—Minutes of the meeting held at Bangalore with the Representatives of the Government of India .. 129

(16) 1956—Sharing of waters of Tungabhadra High Level Canal—Summary of proceedings of the Inter-State Conference held at Bangalore on 18th June 1956 133

(17) 1959—Revised Memorandum by the Central Water and Power Commission on the allocation of Krishna and Godavari waters between the Reorganised States 135

(18) 1959—Proceedings of the meeting held at Hyderabad on 24th February 1959 between the Chief Engineers of Mysore and Hyderabad 158

III. Draft Agreements—

(a) Pennar Kumudvathy Agreement .. 162

(b) Upper Pennar Agreement 167

IV. Note furnished by the Chief Engineer, Irrigation Projects, on the sharing of Godavari Waters and details of Manjira and Deonur Projects .. 170

V. Proceedings of the meetings of the *Ad Hoc* Committee 181

VI. Maps.

MYSORE PUBLIC WORKS DEPARTMENT

Report of the *Ad-hoc* Committee constituted in Government Order No. P.W.D. 11 TBP 57, dated the 7th February 1959 for reviewing the Inter-State Agreements of River Valleys.

VOLUME II

I. Proceedings of the Government of Mysore.

Read :

Government Order No. PWD 11 TBP 57, dated 8th May 1958, according sanction to the appointment for a period of two months of a Second Grade Typist and an Assistant Draftsman, on the usual scales of pay and allowances now in force in the State, for work in the Office of the Chief Engineer (General) for getting up particulars required by the Central Water and Power Commission, Government of India, in connection with the agreements or arrangements relating to river valley projects and utilisation of river waters, the cost being debited to "50. Civil Works—E. Establishment—A. Chief Engineer—2. Pay of Establishment."

2. Correspondence ending with letter No. 1009/CD, dated 14th October 1958, from the Chief Engineer (General), forwarding certain proposals, as recommended by the Committee of Chief Engineers for the review of all existing Inter-State Agreements in regard to river valleys and the utilisation of waters of Inter-State Rivers, so as to enable Government to prepare its case for a fair and equitable readjustment of the allocation of waters as a result of States Reorganisation.

Order No. PWD 11 TBP 57, dated, Bangalore, 7th February 1959.

Government are pleased to accord sanction to the constitution of an Ad-Hoc Committee with the undermentioned personnel, as also the appointment of the undermentioned* staff for a period of four months in the first instance for the purpose of reviewing all the agreements and arrangements between Mysore State on the one hand and the States of Andhra Pradesh, Madras, Kerala and Bombay on the other, in regard to River Valleys and the

utilisation of the waters of Inter-State Rivers and for furnishing a report to Government on the adjustments and modifications that may be found necessary as a result of States Reorganisation and otherwise.—

CHAIRMAN

Sri H. Ananthachar, B.E., A.M.I.E.,
Chief Engineer (Retired).

MEMBERS

Chief Engineer (General).
Chief Engineer, Major Irrigation, North.
Chief Engineer, Major Irrigation, South.

SECRETARY (*Ex-officio*)

Sri K. Padmanabhan, B.E.,
Under Secretary, Public Works Department.

*One Assistant Engineer on Rs. 250—25—450—30—600.
(For working as Assistant Secretary of the Committee).
One II Grade Typist on Rs. 55—3—70—4—110—5—150.
One Assistant Draftsman on Rs. 70—5—90—6—150.
One Junior Engineer (Supervisor) on Rs. 150—10—300.

2. The Committee is requested to report to Government in four months.

3. The cost on account of the staff now sanctioned will be debited to the grant under " 50. Civil Works—E. Establishment—A. Chief Engineer," the necessary funds being found, if necessary, by reappropriation.

By Order and in the name of the Governor of Mysore,

(Sd.) B. C. ANGADI,
Under Secretary to Government,
Public Works Department.

Shri H. Ananthachar, B.E., A.M.I.E., Chief Engineer (Retired).
The Chief Engineer (General), Bangalore.
The Chief Engineer, Major Irrigation (North), Munirabad.
The Chief Engineer, Major Irrigation (South), Bangalore.
The Accountant General (Mysore) through the Finance Department.
Copy to Public Works (Services) Branch.

II

(1) RULES DEFINING THE LIMITS WITHIN WHICH NO NEW IRRIGATION WORKS ARE TO BE CONSTRUCTED BY THE MYSORE STATE WITHOUT PREVIOUS REFERENCE TO THE MADRAS GOVERNMENT, 1892.

EXPLANATORY MEMORANDUM

To accompany the Draft of "Rules defining the limits within which no New Irrigation Works are to be constructed by the Mysore State without previous reference to the Madras Government."

I. It was mutually agreed at the Conference held at Ootacamund on Friday, 22nd May 1891, that the proposal of Mysore to consider each individual Stream, or Catchment area, separately on its own merits, would be a more suitable method of arriving at an arrangement whereby both Madras and Mysore interests should be protected.

II. With this view, the accompanying Draft of Rules and appended Schedules have been prepared after very careful consideration. Special pains have been taken to exclude from Mysore operations all Streams and Catchment areas which can reasonably be regarded as affecting existing Madras interests to any extent whatsoever.

III. The general principal of the Draft Rules now proposed is the same as that of the Rules recently drawn up in the Madras Public Works Department. The Mysore programme of Public Works will be seriously curtailed by the adoption of even the Rules now proposed, but the Durbar are most anxious to have some immediate settlement on the subject in order to be able to revise their programme and to have some projects ready at hand against an adverse season, which unfortunately is already threatening. Mysore operations outside the limits of Schedules A and B cannot, it is believed, affect existing Madras works, nor can such works which depend upon floods in the streams supplying them, be affected by direct Irrigation in Mysore, from channels drawn from such streams by means of anikats.

IV. In order to further illustrate the scope of these Rules, and the exhaustive character of the list of streams included in Schedule B, the following remarks on each of the Main River Drainages entered in Schedule A are offered :—

(1) *Tungabhadra Drainage.*—On this drainage there are only two streams on which there are any existing Madras works, if the anikats on the Tungabhadra are left out of account as being almost entirely dependent on floods in the river ; these are—

(i) The Jiganhalli Tank Catchment.
(ii) The Anantapur Tank Catchment.

These Catchments extend into the Molakalmuru Taluk of Mysore, and have been entirely excluded from Mysore Operations—(Item Nos. 9 and 10 of Schedule B).

As regards the Madras works on the Tungabhadra itself, the nearest of these to the frontier is, it is believed, the Walvapur Anikat in the Hospet Taluk, some 87 miles below the frontier measured down the stream, and below this there are several other existing anikats with their subsidiary works.

These anikàts are entirely dependent on floods in the river, and these floods are caused by the run-off from the Malnad (or Western Ghat) portions of the Catchment in the upper reaches of the Tunga and Bhadra Rivers above Shimoga and Lakkavalli, where the rainfall over large areas is from 150 to 250 inches during the South-West Monsoon. The scanty and intermittent supply received by the River (Tungabhadra) from the smaller drainages in the dry tracts below Shimoga and Lakkavalli does not materially affect the floods ; this scanty supply is of no practical benefit to Madras works, as they chiefly occur (if ever) in November or later in the year, but are of incalculable benefit to Msore in the arid tracts of Chitaldrug.

(2) *Vedavati or Hagari Drainage.*—Taking the minor drainages of this Catchment in order, these are—

(11) Chinna Hagari.
(12) Nagalapura Tank (Madras) Catchment.
(13) Rangasamudram Tank (Madras) Catchment.

(14) Yeradkere Tank (Madras) Catchment.
(15) Main stream of Talak drainage.
(16) Main stream of Doderi drainage.
(17) Virapsamudram and Amrapur Tank (Madras) Catchments.

Nos. (12), (13), (14), (17) affect supply to existing Madras Tanks, and the entire areas of these Catchments are included in Schedule B. It is believed these are the only Catchments on this drainage (Vedavathi) flowing out of Mysore Territory on which there are existing tanks below in Madras Territory.

The other three streams in Schedule B, in addition to the main stream in Schedule A, are the main feeder of the river, and Mysore operations up to the points noted in the schedule have been restricted to Repair Works. In this Catchment again the larger proportion of the floods in the river from June to October are due to the heavy rainfall in the upper reaches of the river, and the run-off from the Catchments in the dry and arid portions of the Catchment near the Frontier is of little use in supplying the anikats on the river (if any such exist) in Madras Territory ; floods on these small Catchments are generally experienced in the end of October or in November, and even then are of comparatively rare occurrence, and of short duration.

(3) *Pennar or North Pinakini Drainage.*—Attention may be drawn to Colonel Smalley's remark in para 19 of his No. 674, dated 10th June 1890. There are no existing Madras Works on this river for a distance of 200 miles or so from the Frontier (as measured down the stream); there are, however, some five tanks near Hindupur which receive a supply from channels with Open Heads from the river ; presumably these tanks would only receive a supply in times of floods in the river.

It will however be seen that in addition to the main stream in Schedule A Mysore has consented to restrict its operations on the whole length of two of the principal feeders as well as on considerable lengths on the Kumadvati and Jayamangali Rivers. The whole of such Catchment areas in Mysore Territory as directly affect the supply to tanks in Madras have been also excluded from Mysore operations.

(4) *Chitravathi River Drainage.*—In addition to the main stream, the lower portion of the main feeder (the Kushavati) as well as a large area to the north of the Chelur-Bagenhalli road, have been included in Schedule B. The portion of the Catchment to the north of the Chelur-Bagenhalli road being for the greater part very hilly and steep, a large proportion of the flow from the Catchment is obtained from this area. The large Gudibanda Tank on the main feeder impounds most of the run-off from the area above it.

(5) *Papaghni River Drainage.*—The list of Streams in Schedule B includes the portions of all the principal feeders in the Mysore Territory below terminal tanks now in existence on those streams. The streams above these terminal tanks are close to the tops of the water-shed, from five to six miles in all cases ; on these upper portions of the Catchment there are numerous tanks already in existence, and the surplus supply from these upper streams is very little ; the country is nearly all under cultivation, and the run-off from ploughed soil or land when under crops is very small.

(6) *Palar River Drainage.*—Schedule B includes all the principal feeders of the river. The other drainages on the Eastern and Southern Frontier are very small and of no importance either to Madras or Mysore.

On this Catchment, there are, it is believed, no Madras tanks on any of the drainages from the Mysore Territory ; and there are no works in the Palar River, it is believed, above the Palar Anikat near Arcot, about 85 miles from the Frontier of Mysore.

It may also be mentioned that on the main drainage of the Palar River in Mysore, there are 1,000 tanks, some of them of very large size, on 803 square miles of Catchment area, and assuming a supply 48,000 of units (1 unit= 10,000 c. yds.) as available from the Catchment, which would be equivalent to a run-off of 7 inches per square mile, we only obtain an average of 48 units as available for each tank now in existence! The surplus water available therefore from such a Catchment as this would be of very little use to help the floods in the Palar River.

(7) *The Pennar or South Pinakini Drainage.*—All the principal feeders of the river in Mysore Territory

are included in Schedule B. There are, it is believed, no Madras work on this river above the Tirukoilur Anikat in South Arcot, some 140 miles from the Mysore Frontier.

On this Catchment, there are numerous tanks in existence on all the minor streams. The details of the principal tank series on this Catchment above terminal tanks are—

(1) Koppa 47.7 sq. miles ; 76 existing tanks—units available at 60 units per square mile—2,862

or only 38 units to each tank, many of which are large and important.

	Sq. Miles.	Tanks.	Units available.	Units per tank.
(2) Budikote Series ..	114.5	160	6,870	43
(3) Masti Series ..	45.4	63	2,724	43
(4) Malur Series ..	66.5	65	3,990	61
(5) Vagata Series ..	31	33	1,860	56
(6) Hoskote series including Kadgodi ..	524	246	31,440	128
(7) Varthur Series ..	106	122	6,360	52
(8) Bidarguppe Series ..	88	109	5,280	50
(9) Attibele Series ..	38	62	1,596	37

The Budikote stream below the Mysore terminal tank is of considerable length, as also the Koppa stream ; but the surplus supply available from above the terminal tanks in these cases would be very little.

The whole of the Masti Series has been conceded, as the Catchment is hilly, and the run-off perhaps more than here estimated.

The run-off from the terminal tanks in the Vagata and Malur Series would be small, as the lower tanks are of comparatively large size.

The Hoskote Series is perhaps of some importance for supply and the principal feeder—the Kadgodi Branch of this Stream—has been conceded.

The run-off from the terminal tanks in the Varthur, Attibele and Bidarguppe Series is small, the terminal tanks themselves and those immediately above these being very large and important.

(8) *Cauvery River Catchment.*—Here, as in the Tungabhadra, the floods in the river are mainly supplied by the run-off from the Catchments in the upper reaches of the several main feeders situated in Manjarabad, Coorg and Heggaddevankote. The run-off from the minor Catchments in Chamarajnagar and Malvalli Taluks of Mysore, near the Frontier, does not materially affect the floods in the river, upon which, it is believed, the Madras Irrigation Works below almost entirely depend for their supply.

As the Durbar are most anxious for some early definite arrangement, they have included in Schedule B Streams and Drainages of doubtful benefit to Madras, but of vital importance to Mysore. The foregoing remarks and a glance at the map will show that the arrangement now proposed is more suitable in every way than fixing any particular limit of distance from the Frontier alround without regard to the varying circumstances of particular localities and drainages.

V. *Schedule C* is a list of works now in progress which would be affected by the Rules now proposed, but as these works were started before the question of the diminution of the supply to Madras Works arose, they are to be allowed to be completed.

VI. A list is under preparation of the more important irrigation works which either had been or are now, under contemplation by Mysore, and which under the Rules now proposed will have to be submitted to the Madras Government for their consent before being undertaken.

VII. The following maps accompany:—

(i) Rolled map of Ordnance Survey Sheets, 4 miles to an inch, on which the Rivers and Streams defined in Schedules A and B are coloured blue; the Catchment areas in Schedule B being also coloured blue. The numbers entered in red ink on the map are the Serial Numbers as entered in Schedule A, and the blue figures serial numbers as entered in Schedule B.

(ii) An Index map, 16 miles to an inch scale, on which the Rivers and Streams and Catchment areas are also shown.

DATED 4TH JANUARY 1892.

FROM

The Secretary to Government of Mysore,
Public Works Department.

TO

The Assistant to the Resident.

SIR,

With his letter No. 1A of 10th June 1890, the Dewan submitted to the Resident a Memorandum on the subject of the restoration and construction of Irrigation Works in Mysore, the right to effect which without restriction had been disputed by the Madras Government. In that letter, he urged the Resident to represent the matter in full to the Government of India, in view to a settlement of the points at issue.

2. Colonel Sir Oliver St. John informed the Dewan in April last that the Government of India would prefer the matter to be settled if possible by some understanding between Madras and Mysore, and before leaving Ootacamund this year, he arranged for a conference between Officers of the two Governments. Under such circumstances, the Durbar again made endeavours in conference with the Madras Government to arrive at an amicable understanding regarding our future Irrigation operations, so that controversy might be obviated in regard of individual works, and a sphere of operations declared in which Mysore projects should be absolutely untrammelled. At the same time, restrictions to be accepted by the Durbar, on certain classes of works on certain rivers and in certain valleys which might effect prejudicially Madras works beyond the frontier.

3. The Rules and Schedules which I now forward embody the arrangements which have been come to in an informal manner, by personal discussion, or by demi-official communications, and I am desired to request you will be good enough to move the Resident to now obtain from the Government of Madras their *formal* acceptance of the same. They will then be adopted by Mysore for future guidance of the Irrigation Officers.

4. Annexed to the final Rules and Schedules is printed the demi-official correspondence which led to the modification of the Rules after they were first framed and discussed at Ootacamund in May last. These letters will show that the general terms of the settlement have, with an exception, been informally agreed to by both Governments.

5. The exception I allude to is that referred to in the secondary clause to Rule V. The decision of the Government of India will be necessary on that point, *viz.*, the existence of a liability on the part of Mysore on account of three large Reservoirs now actually under construction, and if such liability exists, the extent of it, but the definite acceptance by Madras of the Rules and Schedules as now drawn up is desirable before the controverted cases are specially referred.

I have, etc.,

C. BOWEN, Col., R.E.,
Secretary to the Government of Mysore,
Public Works Department.

Rules defining the limits within which no new Irrigation Works are to be constructed by the Mysore State without previous reference to the Madras Government.

I. In these Rules,

(1) "*New Irrigation Reservoirs*" shall mean and include such Irrigation Reservoirs, or tanks, as have not before existed, or having once existed, have been abandoned and been in disuse for more than 30 years past.

(2) A "New Irrigation Reservoir" fed by an anicut across a stream shall be regarded as a "*New Irrigation Reservoir across that stream.*"

(3) "Repair of Irrigation Reservoirs" shall include (*a*) increase of the level of waste weirs and other improvements of existing Irrigation Reservoirs or tanks, provided that either the quantity of water to be impounded, or

No. 3—1.

the area to be irrigated, is not more than the quantity previously impounded, or the area previously irrigated, by them; and (*b*) the substitution of a new Irrigation Reservoir for and in supersession of an existing Irrigation Reservoir but in a different situation or for and in supersession of a group of existing Irrigation Reservoirs, provided that the new work either impounds not more than the total quantity of water previously impounded by the superseded works, or irrigates not more than the total area previously irrigated by the superseded works.

(4) Any increase of capacity other than what falls under "Repair of Irrigation Reservoirs" as defined above shall be regarded as a "New Irrigation Reservoir."

II. The Mysore Government, shall not without the previous consent of the Madras Government, or before a decision under Rule 4 below, build (*a*) any "New Irrigation Reservoirs" across any part of the thirteen main rivers named in the Appended Schedule A, or across any stream named in Schedule B below the point specified in Column 5 of the said Schedule B, or in any drainage area specified in the said Schedule B, or (*b*) any "New Anikat" across the minor streams of Schedule A, *viz.*, 4 to 9 and 14 and 15 or across any of the streams of Schedule B, or across the following Major streams of Schedule A, lower than the points specified hereunder:—

Across 1. Tungabhadra—lower than the road crossing at Honhalli;

Across 10. Cauvery—lower than the Ramaswami Anikat;

and Across 13. Kabini—lower than the Rampur Anikat.

III. When the Mysore Government desires to construct any "New Irrigation Reservoir" or any "new anikat" requiring the previous consent of the Madras Government under the last preceding Rule, then, full information regarding the proposed work shall be forwarded to the Madras Government and the consent of that Government shall be obtained previous to the actual commencement of work.

The Madras Government shall be bound not to refuse such consent except for the protection of prescriptive right already acquired and actually existing, the existence,

extent, and nature of such right and the mode of exercising it being in every case determined in accordance with the law on the subject of prescriptive right to use of water and in accordance with what is fair and reasonable under all the circumstances of each individual case.

IV. Should there arise a difference of opinion between the Madras and Mysore Governments in any case in which the consent of the former is applied for under the last preceding Rule, the same shall be referred to the final decision either of arbitrators appointed by both Governments or of the Government of India.

V. The consent of the Madras Government is given to New Irrigation Reservoirs specified in the appended Schedule C, with the exception of the Srinivasasagara New Reservoir across the Pennar, the Ramasamudram New Reservoir across the Chitravati, and the Venkatesasagara New Reservoir across the Papaghni. Should, owing to the omission of the Mysore Government to make or maintain these works in a reasonably adequate standard of safety, Irrigation works in Madras themselves in a condition of reasonably adequate safety be damaged, the Mysore Government shall pay to the Madras Government reasonable compensation for such damage.

As regards the three new Reservoirs excepted above, the admissibility of any compensation from Mysore to Madras on account of loss accruing to Madras Irrigation works from diminution of supply of water caused by the construction of the said works, will be referred to the Government of India whose decision will be accepted as final, and should such compensation be decided to be admissible, the decision of the Government of India as to the amount thereof will be accepted, after submission to them of the claims of Madras which should be preferred in full detail within a period of five years after the completion of said works.

VI. The foregoing rules shall apply as far as may be to the Madras Government as regards streams flowing through British Territory into Mysore

SCHEDULE A.

	Main Rivers	*Remarks*
1.	Tungabhadra	
2.	Tunga	Tributary of Thungabhadra.
3.	Bhadra	Do do
4.	Hagrí or Vedavathi	Do do
5.	Pennar or Northern Pinakini ..	
6.	Chitravathi	Tributary of the Pennar or the Northern Pinakini.
7.	Papaghni	Tributary of the Pennar or the Northern Pinakini.
8.	Palar	
9.	Pennar or Southern Pinakini ..	
10.	Cauvery	
11.	Hemavathi	Tributary of the Cauvery.
12.	Lakshmanatirtha	Do do
13.	Kabini	Do do
14.	Honhole (or Suvarnavati) ..	Do do
15.	Yagachi, up to the Belur bridge..	Do Hemavathi.

SCHEDULE B.

A list of the Minor Streams and Catchments in Mysore Territory on which no new Irrigation Reservoirs are to be bui within the limits specified, without previous reference to the Madras Government.

Serial Nos. in Schedule A	Drainages	Serial Nos.	Minor Branches	Defined limit on a stream below which, or defined drainage area within which, no new Irrigation. Reservoirs are to be built without previous reference to Madras Government	Distance from frontier as measured up the stream (approximate)	Remarks
1	2	3	4	5	6	7
1	Thungabhadra.	1A	Choradi or Kumadvati	.. Up to the bridge on this river on Honnali-Shikarpur Road.	10 miles ..	
		1	Sulikere-halla	.. The bund of Sulikere Tank ..	46 miles ..	The Sulikere Tank seldom discharges. This stream joins the Thungabhadra in Mysore Territory.
		2	Sagali-halla	.. Up to the boundary line of the Channagiri Taluk.	40 miles	Above this point there are numerous existing tanks and the run-off from these smaller catchments is of no appreciable importance to floods in the Thungabhadra River.

	3	Sarati-halla	.. As far as the boundary line of the Kakkargola and Avargola villages.	9½ miles	.. A stream of insignificant importance to floods in the Thungabhadra River. This stream joins the Thungabhadra River in Mysore Territory.
	4	Branch of Sarati-halla from east.	Up to Kadaji Tank bund ..	16½ miles	.. Catchment above the Kadaji Tank small and insignificant.
	5	North Hagari	.. Up to boundary of Chitaldrug Taluk.	12½ miles	There are no existing Madras works on this branch of the Thungabhadra.
	6	Branch of Hagari	.. Up to Anaji Tank bund ..	10 miles	
Thungabhadra.	7	Sokke-halla	.. Up to the Hoskere Tank bund	9 miles	No existing Madras works on this stream before it joins the North Hagari. Catchments above Hoskere and Kyasenhalli Tanks very small and insignificant.
	8	Branch of Sokke-halla	.. Up to the Kyasenhalli Tank bund	9 miles	
	9	Jiganhalli Tank (Madras) catchment.	The whole of the outlying bit of Mysore Territory which drains into this Madras Tank.	..	This is an outlying bit of Mysore Territory in Latitude 14°-55′; Longitude 76°-38′.
	10	Anantapur Tank (Madras) catchment.	The whole of the area of the extreme northern portion of the Molakalmuru Taluk in Mysore which drains northwards into the Anantapur (Madras) Tank catchment.	..	There are existing Madras tnks below, and the whole area which drains into such tanks is included.

SCHEDULE B—*contd.*

1	2	3	4	5	6	7
IV	Vedavathi or Hagari.	11	Chinna-Hagari	.. Up to where the stream crosses the frontier near Rangaiyandrug.	16 miles	.. No existing Madras works affected. This stream joins the main river about 8 miles beyond the frontier.
		12	Sherikola-halla, or Nagalapura Tank (Madras) catchment.	The whole catchment area in Mysore Territory.	..	Affects the supply to Madras Tank below.
		13	Rangasamudram tank (Madras) catchment.	The whole area of catchment of the tank in Mysore Territory.	..	The stream from this catchment leaves Mysore Territory in Latitude 14° 37′ 30″ and Longitude 76° 48′ 30″.
		14	Yaradkere tank (Madras) catchment.	Do do	..	The Yaradkere in Madras is in Latitude 14° 30′, Longitude 76° 57′ 30″.
		15	Main stream of the Taluk drainage.	Up to the bridge over this stream on the Salem-Bellary Road.	15½ miles	The road is a convenient point for a limit. No Madras works affected. This stream joins the Vedavathi river within Mysore limits.
		16	Main stream of the Dodderi drainage.	Up to the boundary of the Hosahalli Village.	17½ miles	.. Latitude 14° 21′; Longitude 76° 49′. No existing Madras works affected. This stream joins the Vedavathi river within Mysore Territory.

		17	Virapsamudram and Amarapur tank (Madras) catchment.	The whole area of catchment of this series in Mysore Territory.	..	This area represents a large proportion of the Pavagada Taluk of Mysore.
V.	Pennar or Northern Pinakini.	18	Mulkalkara tank (Madras) catchment.	Do do	..	This Madras Tank is situated in Latitude 14° 8′; Longitude 77° 26′ 20″.
		19	Ruddam tank (Madras) catchment.	Do do	..	A considerable area in the north of the Maddagiri Taluk of Mysore is on this catchment.
		20	Virapsamudram tank (Mysore) catchment.	Do do	..	This terminal Tank is in S. E. corner of the Pavagada Taluk of Mysore, but there are some Madras tanks above in the Madaksira Tahsildari. The catchment excluded from Mysore operations is chiefly in the north of the Maddagiri Taluk.
V.	Pennar or Northern Pinakini.	21	Purghi tank (Madras) catchment.	The whole area of catchment of this series in Mysore Territory.	..	The catchment excluded from Mysore operations is in the north of Maddagiri Taluk.
		22	Jayamangali river	.. Up to its junction with the Garudachala Stream.	28 miles ..	The river above this pont is of minor importance to Madras.
		23	Suvarnamukhi branch of Jayamangali.	Up to site of Rampur Anikat	25 miles ..	Joins the Jayamangali a few miles below this point.

SCHEDULE B—*contd.*

1	2	3	4	5	6	7
		24	Kumudvati	Up to site of anikat feeding the Kadagatur and Gundagal Tanks in Mysore.	9½ miles	This stream joins the Pennar on the Mysore frontier.
		25	Chaulur tank (Madras) catchment.	The whole direct catchment of this tank in Mysore Territory.	..	This Madras Tank is on the west bank of the Pennar just outside Mysore Territory.
		26	Western, or Thondebhavi branch of the Pennar or N.-Pinakini.	Up to its source	.. 27 to 30 miles.	
		27	Central or Varvani branch of the Pennar or N.-Pinakini.	Do	.. 25 miles	
		28	Hindupur Tank (Madras, catchment).	The whole area of catchment of this series in Mysore Territory.	..	An important and large area of the Goribidnur Taluk is here excluded from Mysore operations in a part where water for irrigation is much appreciated.
VI.	Chitravathi	29	Kushavathi stream (Bukkapatna Tank catchment in Madras).	Up to site of Daparti anikat ..	10½ miles ..	The large Gudibanda tank in Mysore and the 20 smaller tanks above impound a very large proportion of the upper catchment already.

	30	Chitravati catchment (Bukkapatna tank catchment).	The whole area to the north of the Chelur-Bagenhalli Road.	..	This portion of the Chitravathi catchment being more hilly and barren, the run-off is greater than in the more cultivated and level catchment to the South of the Chelur-Bagenhalli Road.
VII. Papaghni River.	31	Vandaman-halla ..	Up to Naremadipalli Tank ..	9½ miles ..	No Madras works affected up to the junction of this stream with the Papaghni River.
	32	Guntpalli tank (Madras) catchment.	Tho whole area of catchment in Mysore Territory.	..	This Madras tank is situated just above the large Vyasasamudram Tank.
	33	Sadam Tank (Madras) catchment.	The main stream up to its source.	17 to 18 miles.	This Madras tank, the water-spread of which is partly in Mysore Territory, drains into the Papaghni River just abovel the Vyasasamudrum tank.
	34	Kotagal branch of the Papaghni.	Up to Kotagal Tank ..	Do ..	The catchment above Kotagal Tank is comparatively small and unimportant with numerous small tanks already on it.
	35	Tippasamudram tank (Madras) catchment.	The Marasanpalli-Digavakote stream up to Digavakote .Pathacheruvu Tank; and the Marasanpalli Gundedu stream up to Gundedu Tank.	9½ miles .. 13 miles	These are the only two important streams on this catchment, and above these terminal tanks there is a large number of small tanks on the smal drainage. These terminal tanks are only situated from 4 to 5 miles from the watershed of the Palar.

SCHEDULE B—*contd.*

1	2	3	4	5	6	7
		36	Rangasamudram tank (Madras) catchment.	Adgal stream up to Adgal-Vasantanaikankere Tank.	6½ miles ..	The Adgal Tank is situated six miles from the watershed, and there are numerous tanks in this distance.
				Kurigepalli branch stream up to the Kurigepalli tank.	4½ miles ..	The Kurigepalli Tank is only four miles from the watershed, and there are some 18 small tanks above it.
VIII	Palar River.	37	Nangli (Mysore) tank drainage.	Main stream up to its source.	17½ miles ..	There are 12 Mysore tanks on this main stream.
	Palar River.	38	Shettikal (Mysore) tank drainage.	Main Stream up to its source ..	10 miles	There are about five existing Mysore tanks and one breached tank on this main stream.
		39	Malinayikanahalli (Mysore) drainage.	Do ..	6½ miles	There are four existing Mysore tanks on this main stream.
		40	Vegmadgu (Mysore) drainge.	Do ..	7 miles ..	There are four existing Mysore tanks on this main stream.
		41	Tailur Tank (Mysore) drainage.	Do ..	23 miles ..	There are 10 Mysore tanks on this important branch of the Palar, the terminal tank being 12½ miles from the frontier.

IX.	Pennar or South Pinakini.	42	Vrishabhavathi river	.. Main stream up to Koppa (or Kuppam tank).	16 miles	.. There are 10 tanks above the Koppa Tank which is only some 12 miles from the watershed.
		43	Budikote Stream	.. Main stream up to Thimmanayakanahalli Tank.	21 miles	.. There are 146 tanks above this terminal tank which is only about 12 miles from the watershed.
		44	Masti catchment	.. The whole area of catchment in Mysore Territory.		.. About 45·40 square miles in area in which there are 63 tanks in existence.
		45	Kadgodi drainage	.. Main stream up its source	.. 36 miles	.. There are 10 Mysore tanks on this main stream now in use most of them of large size.

SCHEDULE C.

A list of works already in progress, and which are to be allowed to be completed, although they would be barred by the proposed rules for restriction of Mysore operations.

Serial No. in Schedule A	Main river drainage	Serial number of stream or catchment in Schedule B	Name of work in progress	Date on which work was sanctioned	Amount of estimate in Rupees	Expenditure incurred to end of March 1891	Descriptive Remarks
1	2	3	4	5	6	7	8
I.	Thungabhadra	..	..	..	..	..	No works in progress on these catchments which are affected by the proposed rules submitted to Madras.
II.	Thunga ..	..	..	..	..	..	
III.	Bhadra ..	..	..	..	..	..	
IV.	Hagari or Vedavathi	17	Restoration of the Arsikere Hampaiyandurga tank.	May 1889	4,362	..	The estimate provides for raising the weirs by 2 ft. and increasing capacity from 107 to 163 units. Work in abeyance owing to objection raised by Madras Government. But it is not intended to irrigate more than the area of land (189 acres) assessed as wet by the Revenue Survey.

		17	.. Restoration of the Arsikere Gujjarappan kere tank.	May 1889	3,582	..	The estimate provides for raising the weir by 1 foot, and to increase the capacity from 149 to 186 units. The raising of the weir by 1 foot will not do more than compensate for the silting up of the bed for years.
V.	Pennar or Northern Pinakini.	Main stream	New Reservoir (Srinivasa-sagara) across the river near Kotagarahalli	July 1888	99,206	66,696..	This new masonry dam with earthen bund on flanks is $\frac{2}{3}$ rds. completed. No Madras works affected. The capacity of the tank will be 610 units, and it is intended to irrigate 800 or more acres. This work is referred to by Colonel H. Smalley, R.E., in his No. 674, dated 10th June 1890, to Chief Engineer for Irrigation, Madras.
					(Original Estimate)		
		28	.. Restoration and improvement of Myala tank.	September 1887	14,452		The capacity was increased from 95 units to 318 units, and the work is nearing completion. This tank is on the Hindupur (Madras) tank catchment, but only has a catchment of 38·80 square miles of its own.
					(Revised Estimate)		
				December 1889.	17,168	13,130	
V.	Pennar or Northern Pinakini.	28	Raising the weirs of the Mahamalleswara tank.	September 1890.	3,165	865	This is a small tank above the Myala noted above. The estimate provides for increasing the capacity of the tank from 62 to 102 units, the former capacity having proved insufficient to irrigate the 198 acres of assessed wet lands. No increased area of irrigation is provided for. The total catchment above this tank is only 3 square miles.

SCHEDULE C—*contd.*

1	2	3	4	5	6	7	8
		28	Restoring the Manivala Tank.	February 1889.	4,094	2,860	The tank weir is to be raised 2 feet, and capacity increased from 139 to 211 units, but only in order to impound sufficient water to irrigate the tanks' original atchkat of 350 acres.
VI.	Chitravathi	Main stream.	New—reservoir (Ramasamudram) near Periasandra.	May 1888	75,077	51,824	This Reservoir is noticed by Colonel H. Smalley, R.E., in his No. 674, dated 10th June 1890, to Chief Engineer for Irrigation. It is to have a capacity of 1,207 units to irrigate 1,200 acres. The catchment area above the tank is 47.61 square miles.
		30	Restoration of the Malsandra Rachevar Tank.	December 1888.	4,742	4,724	Weirs of the tank were raised 2 feet increasing the capacity from 105 units to 159 units. It is not intended to increase the area originally irrigated, 258 acres. The capacity of the tank is even now insufficient unless the tank fills 1½ times in the year. Work is nearly completed.
VII.	Papaghni River.	Main stream.	New Reservoir (Venkatesasagara) near Devaganhalli.	June 1888	60,985	28,423	This work is noticed by Colonel H. Smalley, R.E., in his No. 674, dated 10th June 1890, to Chief Engineer for Irrigation. The tank will impound 517 units as designed and will perhaps irrigate 750 acres if it fills 1½ times. The catchment above the tank is 61 square miles.

		Main stream.	Restoring the Burudagunte anikat, channel and tank.	December 1888.	25,575	17,350	This work consists in (1) building a masonry anikat with the usual earth flank bunds across the main stream, (2) restoring the old channel therefrom, and (3) restoring the Buradagunte Thimmasani Tank and increasing its capacity from 111 units to 167 units. This project is also noticed by Colonel Smalley in his Report No. 674, dated 10th June 1890.
			Restoring the Thimmanayakanhalli Agrahar tank.	August 1888.	16,776	13,234	Noticed also in Colonel Smalley's letter above quoted. This is a restoration of an old breached tank 26 miles up the main stream and 2 miles above the Chintamani-Bagenhalli Road. The tank is to impound 240 units and irrigate 250 acres as against its original atchakat (Irrigable area) of 330 acres as per Revenue Survey Maps. Work is nearing completion.
		35	.. Restoring Kotekallur tank.	April 1888	6,564	5,690	This project consists in the restoration of a tank which breached in 1874, and for increasing its capacity from 25 to 80 units. It is 6 miles from the frontier on the Thippasamudram (Madras) Tank catchment.
	VIII. Palar River.	37	.. Restoring the Byatnur, Nagavara tank.	September 1888.	14,300	8,102	This is the terminal tank of the Series. The capacity being increased to 152 to 320 units, it is only intended to irrigate the original area of 365 acres included in the atchkat.

SCHEDULE C—*contd.*

1	2	3	4	5	6	7	8
		37	.. Restoring Marandahalli tank.	March 1886 Revised Estimate in July 1888.	5,345	5,254	The project provides for raising the weirs 3 feet and increasing the capacity from 121 to 186 units to irrigate perhaps 250 acres. Work is nearing completion.
		41	.. Restoring Jagalkashti Dodkere tank.	April 1888 Revised Estimate in January 1890.	7,246	7,210	Project provides for raising the weirs 3 feet and increasing capacity from 50 to 107 units. Work is nearly completed. No Madras works are affected.
IX.	Pennar or Southern Pinakini.	Main stream.	Restoring Bhadram tank.	April 1888..	21,689	15,033	The project provides for raising the weirs of this tank by 3 feet and increasing the capacity from 701 units to 1,225 units. The work to the tank itself is nearly completed and only channels have now to be extended.
		44	Restoration of Santhehalli tank.	November 1889.	7,480	4,076	This tank is in the Masti catchment. The weirs are to be raised 3 feet and capacity increased from 93 to 154 units. No Madras works are affected.

No. 1022-346-90, *dated Bangalore, 26th March* 1892, *from the 1st Assistant to the Resident in Mysore to the Secretary to the Government of Mysore, Public Works Department.*

SIR,

With reference to your letter No. 3—1, dated the 4th January 1892, I am directed to inform you that the Rules and Schedules in connection with the restoration and construction of Irrigation Works in Mysore, forwarded therewith, are accepted by the Madras Government.

I have the honour to be,
Sir,
Your most obedient servant,

(Sd.) C. W. RAVENSHAW, MAJOR,
First Assistant to the Resident.

No. I-B (c).—Sir K. Seshadri Iyer's Memorandum, dated 7th September 1889 *about the object and scope of the Rules defining the limits within which no new irrigation works are to be constructed without previous reference to the Madras Government.*

Some misapprehension appears to exist regarding the object and scope of the "Rules defining the limits within which no new irrigation works are to be constructed by the Mysore State without previous reference to the Madras Government," which have been adopted by mutual agreement between the Governments of Madras and Mysore as per the undermentioned correspondence :—

(1) Letter No. 3—1, dated 4th January 1892, from Secretary to Government of Mysore, D.P.W., to the First Assistant to the Resident.

(2) Letter No. 1022—346-90, dated 26th March 1892, from the First Assistant to the Resident, to Secretary to Government of Mysore, D.P.W.

2. These Rules are not intended to curtail in any way the rights of the State to utilize the waters within its

territorial limits. Such rights must always be decided on the merits of each case, according to the accepted principles of law applicable to the subject. Regarding these rights, I still hold the opinion given in the following paragraph of my Memorandum, dated 10th June 1890, forwarded to the Resident in Mysore with my letter of the same date :—

"6. I may perhaps be permitted to add a few remarks on the question of the right to the water in dispute.

"(*a*) The supply of water which we propose to store and use for irrigation and water-supply is only casual, intermittent, and exclusively dependent upon the rainfall on Mysore land. We have a *natural* right to collect and dispose of all water on the surface of our land, and though, as between private owners, such *natural* right would (subject to the exceptions hereafter to be noticed) be restricted to water *not* flowing in a defined channel, the case of a State is, I submit, very different. It has to deal with large interests and establish means of irrigation and water-supply over extensive areas, and it cannot effectually dispose of surface waters before it enters some defined channel. And I submit that the question as affecting the State has to be decided on the higher grounds of public welfare and general prosperity, and not according to the strict rules of law applicable only to private rights.

"(*b*) The State naturally would have greater right of control over water falling on the surface of its own lands and gathering into a defined channel within its own frontier than it would in the case of a stream rising outside its frontier and merely flowing through it into the Madras Districts; the obligations which may exist in respect of a stream of the latter kind do not arise in any of the cases under dispute. In all these cases on the other hand, the works we propose would tend to hold back river-floods running more or less to waste and to establish more perennial streams flowing from Mysore into the Madras Districts.

"(c) If a right of easement by prescription is claimed on behalf of the Madras raiyats, I can only say (assuming that such a limiting right as an easement can at all be acquired by Madras raiyats against the Mysore State) that it is most difficult to say what period of time would be reasonable for the acquisition of such a right against the State. For obvious reasons, the 20 years of the Easement Act would be too short a term, and in the case of Mysore, the fact of the British Administration of the Province during half a century has an important bearing upon the question.

"Moreover, a right of easement can never be acquired by a mere *Permissive* user. It cannot be said that Mysore never intended to store its rainfall for irrigation and other purposes to a greater extent than it used to do at some remote period. It is indeed more reasonable to infer that the user in question was *permitted* to be in force only so long as the State did not wish or were not able to store more water. As a matter of fact, the history of the Mysore Irrigation Department, as already shown, bears ample testimony to the Mysore Government having always intended to store and utilize as much of its rainfall as possible, and the presumption of a grant from prescriptive enjoyment is therefore most distinctly and expressly negatived in the case of all Mysore streams, to the extent to which they may be capable of being utilized for irrigation and other purposes within Mysore Territory.

"It is also most important to remember that the so-called right by prescription cannot be claimed either in the case of recent Madras works or recent enlargement of old Madras works; nor as regards water which now flows to waste over existing Madras works, can any right whatsoever be claimed by Madras, for the essence of a prescriptive right is enjoyment and use, which cannot, of course, be predicated of what is allowed to run to waste.

"And lastly, it is worthy of note that we have always impounded—in increasing quantities as our

works increased—as much of our rainfall as possible. This increasing appropriation has, until, recently, never been objected to by Madras. This is not surprising if we remember that (as pointed out by Colonel Sankey in his letter of 19th November 1866) the old Mysore Tank system was so perfect that, were all tanks in their normal condition, none of the drainage of 16,287 square miles commanded by the system could possibly escape, and that, therefore, the so-called new works and new or increased storage of water were, in reality, new methods of securing what the old system secured in a different way.

"And *(d)* even in the case of private riparian owners, they have the natural right to use the water flowing through their land in a defined channel for all reasonable purposes including the irrigation of land, *provided they do not thereby destroy or materially diminish or affect the application of the water by riparian owners below the stream,* either in exercise of their natural right or right of easement. (See Embrey *vs.* Owen, 6, Exch., 372, and XI Indian Law Reports, Madras 19.) Assuming, for the sake of argument, that this well-recognized principle of Municipal law is applicable to the case of two neighbouring Provinces, I am sanguine that it would be found upon investigation, that Mysore is strictly within its right in carrying out the works to which objection has been taken by the Madras Government."

3. The Rules in question are intended for the guidance of our Engineers in the preparation of irrigation projects and to inform them as to the kind of new irrigation works regarding which the Durbar has undertaken to seek the previous consent of the Government of Madras, that Government on its own part agreeing not to refuse such consent except for the protection of prescriptive right already acquired and actually existing, the existence, extent, and nature of such right, and the mode of exercising it being in every case determined in accordance with the law on the subject of prescriptive right to use of water, and in accordance with what is fair and reasonable under all the circum-

stances of each individual case." In the case of a difference of opinion between the Governments of Madras and Mysore in any case, a reference to arbitration or the final decision of the Government of India is provided.

4. It is obvious from the above that the Madras Government cannot object on the ground of proposed or possible future new works in its own territory. Its objection must be on the ground of protection of rights already actually existing and not of rights hereafter by user and enjoyment.

5. Under such circumstances, in the case of any new irrigation work in Mysore which comes under the class for which the Rules in question provide a reference to the Madras Government, it is of the utmost importance to investigate beforehand, whether any "prescriptive right already acquired and actually existing" in Madras Territory is likely to be affected by the proposed Mysore work. Such investigation should include the collection of information as to the nature, extent and dimensions of any existing prescriptive right in Madras, when and how such right was acquired, how the same has been enjoyed, etc., *e.g.*, suppose a new work in Mysore (coming under the Rules) is at all likely to diminish the supply of water to an existing Madras tank, the information to be collected should include (1) when the Madras tank was constructed, or enlarged, (2) whether twenty years have elapsed since such construction or enlargement, (3) its capacity and the area which drains into it, (4) the area of actual irrigation under it, (5) whether the new Mysore tank is likely to cause any and what diminution of supply for the existing irrigation in Madras, and, if so, whether such diminution can be regarded as material or as causing any appreciable practical injury to such irrigation.

6. During my recent tour, the want of sufficient irrigation in Davangere Taluk was strongly pressed upon my attention by the local officers. Some of the most eligible projects had not been investigated as being within the tract in which the Rules in question have operation. They should be investigated on the lines above suggested.

7-9-99. K. SESHADRI IYER.

P. S.—In para 2 of the Rules " and 15 " is a mistake, and no reference to the Madras Government should be necessary in respect of a new anikat across the Yagachi River.

II

(2) 1900 Sivasamudram Agreement.

Letter No. 150 D. C., dated Camp Mysore, 26th May 1900, from the Secretary to the Government of Mysore, Public Works Department, to the First Assistant to the Resident in Mysore.

I have the honour to acknowledge the receipt of the Resident's letter No. 2316-302-94, dated 14th instant, to the address of the Dewan of Mysore, and am directed to reply as follows :

2. In your letter No. 3927-302-94, dated the 4th September 1899, the Durbar were informed that the Madras Government was prepared to allow them to use the whole power of the Falls, subject to certain conditions. In reply, the Durbar suggested some modifications of these terms, and the decision of the Madras Government upon these suggestions is conveyed in the letter now under acknowledgment.

3. According to this decision the concession from the Government of Madras to the Government of Mysore will be as follows :

The Government of Madras to allow the Government of Mysore to utilise the whole power of the Falls subject to the following conditions :

(i) that no charge be made for five years from the date of concession ;

(ii) that thereafter for a period of thirty years for half the total water power utilised, a payment of Rs. 5 per Electrical H.P. per annum shall be made to the Madras Government by the Durbar, provided that the minimum annual payment shall be Rs. 2,000 ;

(iii) that at the expiry of this period of thirty years the terms shall be liable to revision, the concession being renewed upon such terms as may be mutually agreed upon, reference to the Government of India being reserved in the case of differences which cannot be otherwise settled;

(iv) that cessation on the part of the Durbar to utilise the water of the Falls for the generation of electrical power for two years shall operate to terminate the agreement;

(v) that for the purpose of the power works, the Durbar to be vested with the control over the discharge in the river and its branches at and above the Falls and to be permitted to build two low dams, subject to the following stipulations;

(*a*) that the Durbar shall not restrict or interfere with the amount of water for irrigation or other purposes, to which amount the Jahgirdar of Sivasamudram may be legally entitled; and

(*b*) that the Durbar shall reimburse, and make good to the Madras Government all loss or damage which, under the decision of a competent Civil Court, may accrue in consequence of the Durbar's operations, through the infringement of the legal rights of private persons.

4. I am to convey the acceptance of the Durbar of the concessions as described above.

5. In thus accepting the terms offered by the Madras Government and in embarking accordingly upon the great undertaking of the proposed power works, the Durbar rely upon the kind help of that Government to secure for them always the full enjoyment of the rights granted by the concession. The two main rights thus granted are:

1st—The right of control over the discharge in the river and its branches at and above the Falls; and

2nd—The right to utilise the whole power of the Falls.

It is by the vigilant exercise of these rights that the Durbar have to secure that continuous and adequate supply of water upon which the success of the power works so entirely depends. The Durbar on their part undertake (by the stipulations in clause (v) of the concession as above set forth) to respect all existing legal rights to the use of water for irrigation and other purposes by the Jahgirdar of Sivasamudram and other private persons, but on the other hand (by reason of the control over the discharge in the river and its branches which the concession vests in the Durbar) the Jahgirdar of Sivasamudram and other private persons would not have the power without the consent of the Durbar, to construct new irrigation works, or extend existing ones, or restore those which have been in disuse for twenty or more years, so as in any way to diminish the present discharge in the river and its branches. Under such circumstances it seems to the Durbar to be desirable, for the purpose of preventing future differences and doubts, to place upon record in some way the whole of the facts relating to the quantity, nature and conditions of the existing irrigation in British Territory above the Falls. Such a record will be of value as evidence merely, and the framing of it need not, it is submitted, delay the grant of the concession, the terms of which, as offered by the Madras Government, have been fully accepted by the Durbar as already stated.

6. In conclusion, I am to state that, if no objection exists, the Durbar will, in anticipation of the execution of the formal agreements between the Governments of Madras and Mysore begin at once to carry out the scheme by entering into the necessary contracts with manufacturers and others and by beginning actual work on the two low dams, the channel and the head works.

7. The Resident is already aware of the extreme urgency of the case, and the Durbar would feel much obliged by being allowed immediately to commence work, in anticipation of the execution of formal agreements and on the terms of the concession as now mutually agreed upon.

(3) FINAL AGREEMENT BETWEEN THE MYSORE AND THE MADRAS GOVERNMENTS IN REGARD TO THE CONSTRUCTION OF A DAM AND A RESERVOIR AT KRISHNARAJASAGARA, 18TH FEBRUARY 1924 AND 17TH JUNE 1929.

AGREEMENT.

1. WHEREAS by an agreement, dated 18th February 1892, commonly known and cited as the 1892 agreement, entered into between the Government of His Highness the Maharaja of Mysore, hereinafter referred to as the Mysore Government and the Government of Madras, hereinafter referred to as the Madras Government, certain rules and schedules defining the limits within which no new irrigation works are to be constructed by the Mysore Government without previous reference to the Madras Government were framed and agreed to; and

2. WHEREAS under clause III of the said agreement the Mysore Government asked for the consent of the Madras Government to the construction of a dam and a reservoir across and on the river Cauvery at Kannambadi now known as the Krishnarajasagara dam and reservoir; and

3. WHEREAS a dispute arose as to the terms under which the Mysore Government were to construct the dam in the manner and form proposed by them; and

4. WHEREAS such dispute was referred to the arbitration of Sir H. D. Griffin who gave an award in the year 1914 as to the terms and conditions under which the Madras Government should consent to the construction of the said dam and reservoir; and

5. WHEREAS the Madras Government, after the said award of the said Arbitrator was ratified by the Government of India, appealed to the Secretary of State for India who re-opened the question; and

6. WHEREAS thereupon the Mysore Government and the Madras Government with a view to an amicable settlement of the dispute entered into negotiations with each other; and

7. WHEREAS as the result of such negotiations, certain Rules of Regulation of the Krishnarajasagara Reservoir were framed and agreed to by the Chief Engineers of the Mysore and Madras Governments on the 26th day of July of the year 1921, such Rules of Regulation forming Annexure I to this agreement; and

8. WHEREAS thereafter the technical officers of the two Governments have met in conference and examined the question of extension of irrigation in their respective territories with a view to reaching an amicable arrangement; and

9. WHEREAS as the result of such examination and conference by the technical officers of the two Governments, certain points with respect to such extension were agreed to respectively by the Chief Engineer for Irrigation, Madras, and the Special Officer, Krishnarasagara Works at Bangalore, on the 14th day of September 1923, such points forming Annexure III to this agreement.

10. Now these presents witness that the Mysore Government and the Madras Government do hereby agree and bind themselves, their successors and representatives as follows :—

(i) The Mysore Government shall be entitled to construct and the Madras Government do hereby assent under clause III of the 1892 agreement to the Mysore Government constructing a dam and a reservoir across and on the river Cauvery at Kannambadi, now known as the Krishnarajasagara, such dam and reservoir to be of a storage capacity of not higher than 112 feet above the sill of the under-sluices now in existence corresponding to 124 feet above bed of the river before construction of the dam, and to be of the effective capacity of 44,827 m. c. ft., measured from the sill of the irrigation sluices constructed at 60 feet level above the bed of the river up to the maximum height of 124 feet above the bed of the river ; the level of the bed of the river before the construction of the reservoir being taken as 12 feet below the sill level of the existing under-sluices ; and such dam and reservoir to be in all respects as described in schedule forming Annexure II to this agreement.

(ii) The Mysore Government on their part hereby agree to regulate the discharge through and from the said

reservoir strictly in accordance with the Rules of Regulation set forth in the Annexure I, which Rules of Regulation shall be and form part of this agreement.

(iii) The Mysore Government hereby agree to furnish to the Madras Government within two years from the date of the present agreement dimensioned plans of anicuts and sluices or open heads at the off-takes of all existing irrigation channels having their source in the rivers Cauvery, Lakshmanathirtha and Hemavati, showing thereon in a distinctive colour all alterations that have been made subsequent to the year 1910, and further to furnish maps similarly showing the location of the areas irrigated by the said channels prior to or in the year 1910.

(iv) The Mysore Government on their part shall be at liberty to carry out future extensions of irrigation in Mysore under the Cauvery and its tributaries to an extent now fixed at 110,000 acres. This extent of new irrigation of 110,000 acres shall be in addition to and irrespective of the extent of irrigation permissible under the Rules of Regulation forming Annexure I to this agreement, *viz.*, 125,000 acres *plus* the extension permissible under each of the existing channels to the extent of one-third of the area actually irrigated under such channel in or prior to 1910.

(v) The Madras Government on their part agree to limit the new area of irrigation under their Cauvery-Metur Project to 301,000 acres, and the capacity of the new reservoir at Metur, above the lowest irrigation sluice to ninety-three thousand five hundred million cubic feet:

Provided that, should scouring sluices be constructed in the Dam at a lower level than the irrigation sluice, the dates on which such scouring sluices are opened shall be communicated to the Mysore Government.

(vi) The Mysore Government and the Madras Government agree with reference to the provisions of clauses (iv) and (v) preceding, that each Government shall arrange to supply the other as soon after the close of each official or calendar year, as may be convenient, with returns of the areas newly brought under irrigation, and with the average monthly discharges at the main canal heads, as soon after the close of each month as may be convenient.

(vii) The Mysore Government on their part agree that extensions of irrigation in Mysore as specified in clause (iv) above shall be carried out only by means of reservoirs constructed on the Cauvery and its tributaries mentioned in Schedule A of the 1892 agreement. Such reservoirs may be of an effective capacity of 45,000 m.c.ft., in the aggregate and the impounding therein shall be so regulated as not to make any material diminution in supplies connoted by the gauges accepted in the Rules of Regulation for the Krishnarajasagara forming Annexure I to this agreement, it being understood that the rules for working such reservoirs shall be so framed as to reduce to within 5 per cent any loss during any impounding period, by the adoption of suitable proportion factors, impounding formula or such other means as may be settled at the time.

(viii) The Mysore Government further agree that full particulars and details of such reservoir schemes and of the impounding therein, shall be furnished to the Madras Government to enable them to satisfy themselves that the conditions in clause (vii) above will be fulfilled. Should there arise any difference of opinion between the Madras and Mysore Governments as to whether the said conditions are fulfilled in regard to any such scheme or schemes, both the Madras and Mysore Governments agree that such difference shall be settled in the manner provided in clause (xv) below.

(ix) The Mysore Government and the Madras Government agree that the reserve storage for power generation purposes now provided in the Krishnarajasagara may be utilized by the Mysore Government according to their convenience from any other Reservoir hereafter to be constructed, and the storage thus released from the Krishnarajasagara may be utilised for new irrigation within the extent of 110,000 acres provided for in clause (iv) above.

(x) Should the Mysore Government so decide to release the reserve storage for power generation purpose from the Krishnarajasagara, the working tables for the new reservoir from which the power water will then be utilized shall be framed after taking into consideration the conditions specified in clause (vii) above and the altered conditions of irigation under the Krishnarajasagara.

(xi). The Mysore Government and the Madras Government further agree that the limitations and arrangements embodied in clauses (iv) to (viii) *supra* shall, at the expiry of fifty years from the date of the execution of these presents, be open to reconsideration in the light of the experience gained and of an examination of the possibilities of the further extension of irrigation within the territories of the respective Governments and to such modifications and additions as may be mutually agreed upon as the result of such reconsideration.

(xii) The Madras Government and the Mysore Government further agree that the limits of extension of irrigation specified in clauses (iv) and (v) above shall not preclude extensions of irrigation effected solely by improvement of duty, without any increase of the quantity of water used.

(xiii) Nothing herein agreed to or contained shall be deemed to qualify or limit in any manner the operation of the 1892 agreement in regard to matters other than those to which this agreement relates or to affect the rights of the Mysore Government to construct new irrigation works on the tributaries of the Cauvery in Mysore not included in Schedule A of the 1892 agreement.

(xiv) The Madras Government shall be at liberty to construct new irrigation works on the tributaries of the Cauvery in Madras and, should the Madras Government construct, on the Bhavani, Amaravati or Noyil rivers in Madras, any new storage reservoir, the Mysore Government shall be at liberty to construct, as an off-set, a storage reservoir, in addition to those referred to in clause (vii) of this agreement on one of the tributaries of the Cauvery in Mysore, of a capacity not exceeding 60 per cent of the new reservoir in Madras :

Provided that the impounding in such reservoirs shall not diminish or affect in any way the supplies to which the Madras Government and the Mysore Government respectively are entitled under this agreement, or the division of surplus water which, it is anticipated, will be available for division on the termination of this agreement as provided in clause (xi).

(xv) The Madras Government and the Mysore Government hereby agree that, if at any time there should arise any dispute between the Madras Government and

the Mysore Government touching the interpretation or operation or carrying out of this agreement, such dispute shall be referred for settlement to arbitration, or if the parties so agree shall be submitted to the Government of India.

P. HAWKINS,
Secretary to Government,
Public Works Department, Madras.

18*th February* 1924.

A. R. BANERJI,
Dewan of Mysore.

18*th February* 1924.

ANNEXURE I.

Rules of Regulation of the Krishnarajasagara Reservoir under construction on the Cauvery in the Mysore Territory.

PREAMBLE.

The following rules of regulation of the Krishnarajasagara (formerly known and referred to, in the rules of regulation previously in force, as the Kannambadi reservoir shall superseded *in toto* those forming part of the award, dated 21st April 1914, on term of reference 3(*a*) given by the Arbitrator appointed by the Government of India to arbitrate between the Madras and the Mysore Governments on the question of the storage of the waters of the river Cauvery within Mysore territory.

The rules, with the exception of Nos. 1 to 9 inclusive, 10 (except in so far as it relates to Kn.), 11, 12, 14 (ii), 15 to 17 inclusive, 22, 23, 26 (i), (iii) and (v), 27 to 30 inclusive and 32, shall be subject to amendment as may be desirable, subject to the conditions below:—

(*a*) The rules may be altered tentatively for one or two years, by agreement of both parties.

(*b*) At the end of the tentative period the amended rules may be confirmed by the consent of both parties.

(*c*) Subject to conditions (*a*) and (*b*) above, amendment of any rule shall not be a bar to further amendment or reversion to the original rules by consent of both parties.

I. Rules of Regulation, General.

1. The carrying out of these rules of regulation shall, in so far as they relate to the regulation of the Krishnarajasagara, be the duty of a Controlling Officer appointed by the Government of Mysore, and of a subordinate staff working under his orders.

2. The only discretion to be exercised by the Controlling Officer, in operating the rules of regulation shall be as to the means by which the water to be passed from the reservoir to the river shall be passed and such discretion shall be exercised in general accordance with the instructions of the Mysore Government.

3. The curves of discharge of all gauging places in the Mysore State shall be verified by gauging at intervals of three years. Cross-sections of the rivers at the gauging sites shall be taken twice a year, in the first fortnight in June and in the first fortnight of October. If a cross-section taken in June, at any gauging site, indicates a marked change in cross-sectional area, gauge for gauge, joint gaugings shall be made at once, on the request of either party, to verify the discharge curve for the station. Any modification in the curve, found necessary, shall not, however, be applied to regulation for the year in which the gaugings are made.

4. The verification of curves of discharge, referred to in rule 3 above, shall be made jointly by Mysore and Madras; and if such verification shows that modification is necessary such modification shall be made by mutual agreement.

5. All formulæ and co-efficients in such formulæ of discharge, referred to in the rules, shall be subject to revision by mutual agreement.

6. All quantities and readings of gauges to be telegraphed in accordance with these rules shall be expressed in words.

II. Limit Gauges and Discharges at the Upper Anicut.

7. The minimum flow of the Cauvery that must be ensured at the Upper Anicut before any impounding is made in the Krishnarajasagara, as connoted by the readings of the Cauvery Dam north gauge, shall be as follows :—

Month	*Readings of the Cauvery Dam north gauge.*
June ..	.. Six and a half feet.
July and August .	.. Seven and a half feet.
September ..	.. Seven feet.
October ..	.. Six and a half feet.
November ..	.. Six feet.
December .	.. Three and half feet.
January ..	.. Three feet.

8. The discharges connoted by the gauge readings set forth in rule 7 shall, in the case of regulation during the irrigation season (*vide* rule 9) of 1921, be deducted from the average discharge curve derived from the joint gaugings of the Cauvery at the Cauvery Dam made in the four years ending 1920. The said discharges shall be revised, if necessary, after completion of the joint gaugings of 1921 and shall be used for the purpose of regulation for the five years ending 1926. The said discharges shall be finally revised and adopted for all subsequent regulation, at the conclusion of the joint gauging of the year 1926, on the basis of the joint gaugings of the ten years ending 1926.

9. The south-west monsoon shall, for the purpose of these rules, be considered to extend from the 1st June to the 30th September, both days inclusive, and the north-east monsoon from the 1st October to the 31st January, both days inclusive. The irrigation season shall be taken to extend from the 1st June to the 31st January, both days inclusive. All days in this rule shall have reference to the Upper Anicut.

III. Impounding Formula.

10. Impounding in the Krishnarajasagara during the irrigation season shall be regulated in accordance with following formula :—

$I = Kn/P - C$, where

I = Quantity that may be impounded,

Kn=Inflow at Krishnarajasagara, that is, the measured flow at the three 'standard' gauging stations at Chunchinkatte on the Cauvery, Akkihebbal on the Hemavati, and Unduvadi on the Lakshmanthirtha, to which shall be added allowances for—

(i) The yield from the catchment between the 'standard' gauging stations and the Krishnarajasagara calculated in accordance with paragraphs 61 and 62 of Colonel Ellis's Manual of Irrigation (1920 Edition) less the quantity of water required for tank irrigation in the tract in question. In the catchment, the discharges of the major streams shall be deduced, if feasible, from gauge readings by mutual agreement. The duty of water for the areas irrigated under tanks shall be taken as 40.

(ii) The drainage from the ayacuts of channels which drain back into the rivers below the 'standard' gauging stations, the quantity in cusecs of such drainage for a particular channel being taken to be 3/16 of the area irrigated in acres divided by 40.

C=Flow connoted by the gauge reading for the particular month concerned given in rule 7 above. The month at Krishnarajasagara corresponding to that at the Upper Anicut is to be taken as commencing and ending four days earlier than at the Upper Anicut.

P=The proportion which the natural flow in the Cauvery at the Krishnarajasagara bears to the corresponding natural flow at the Upper Anicut.

I, Kn and C to be expressed in the same units.

11. (i) Until the 31st January 1927 the values of 'P' in the formula in rule 10 shall be taken as .625 during the south-west monsoon and .300 during the north-east monsoon.

(ii) An examination of the effect of impounding in the Krishnarajasagara on the supplies realised at the Upper Anicut shall be made in the form and in accordance with the instructions given in Part II of the Appendix to these rules for each of the ten years ending with the irrigation season of 1926-27 to see whether the tentative factors of .625 and .300, provided in part (i) of this rule should be permanently adopted or whether they should be increased (*vide* instructions 25 and 26 of Part II of the Appendix). For the five irrigation seasons ending 1921-22, the average discharge curve for the Cauvery Dam north gauge, obtained from the gauging of the five-year period ending and including 1921, shall be prepared and adopted for the examination. For subsequent years, the discharge curve of the year concerned shall be used. For the months for which it is found necessary, from the examination referred to above, to increase the values of 'P' such values shall be finally adopted and brought into use in lieu of those in part (i) of this rule at the beginning of the irrigation season 1927-28. For months when no increase in the value of 'P' is found to be necessary, the values given in part (i) of this rule shall be finally retained and brought into use at the beginning of the same irrigation season.

12. (i) The whole flow of the river at Krishnarajasagara may be impounded in the reservoir from the 28th January to the 27th of May, both days inclusive, but issues from the reservoir shall be made when necessary to maintain such a flow as will pass to Madras not less than 900 cusecs below Sivasamudram anicut.

(ii) Until the dam is completed to a height admitting of F.R.L. 98 feet above sill level of the existing low level sluices in the dam or until the 28th May 1931, whichever date is the earlier, as an alternative to part (i) of this rule impounding from the 28th January to the 24th February, both days inclusive, shall be in accordance with rules 7, 10 and 11 as far as they relate to the month of January, measurement being made at the Krishnarajasagara ; and from the 25th February to the 27th May, both days inclusive, the whole flow at the Krishnarajasagara may be impounded, subject to a flow of 750 cusecs being maintained below Sivasamudram Anicut. The Mysore Durbar may at any time before the year 1931 elect to regulate their reservoir as provided in part (i) of this rule,

subject to notice being given to the Government of Madras before the 31st December of the year preceding that in which the rule will come into operation. In the event of the Mysore Durbar electing to regulate in accordance with part (i) of this rule no change shall be made thereafter.

IV. Gauge Reading and Inflow Computations.

13. (i) The standard gauges at the gauging stations on the three rivers above the Krishnarajasagara and the gauging station below the same shall be read three times daily, that is, 6 A.M., NOON and 6 P.M.

(ii) All gauge readings shall be telephoned immediately after reading to the Controlling Officer at the Krishnarajasagara.

14. (i) The computation of the inflow into the Krishnarajasagara shall be made by the said Controlling Officer from the electric water level records of the three rivers above the Krishnarajasagara with due allowance for the yield from the intermediate catchment, such allowances being made as provided in rule 10. In the event of an electric recorder differing from the telephoned gauge readings, the latter shall be adopted for computing the inflow for the time being.

(ii) Until the 27th May 1923 the discharge at the standard gauging stations shall be computed from the average curves based on the discharge observations of the four years 1915-18. For the irrigation seasons 1923-24 to 1927-28, inclusive, the discharges at the standard gauging stations shall be computed on the previous season's curves. For irrigation seasons subsequent to that of 1927-28, the discharges at the standard gauging stations shall be computed on the latest annual curves available.

(iii) In the event of an electric recorder differing from the telephoned gauge readings, the Controlling Officer shall, as soon as possible, proceed to the gauging station, check and, if possible, rectify the electric recorder. If the mechanical record is found to differ from the telephoned gauge readings and the mechanical recorder is registering accurately, a correction shall be made in the tentative inflow recorded in the regulation register in accordance with the mechanical record.

(iv) In the event of both records breaking down, the telephoned gauge readings shall be the basis of computation.

V. Allowance for Extension of Irrigation in Mysore after the Year 1910.

15. The area to which Mysore is entitled to extend irrigation without passing compensation water to Madras, by improvement of duty in canals of channels, in existence prior to the year 1910, taking off from the following rivers in Mysore :—

(i) the Hemavathi,

(ii) the Lakshmanathirtha,

(iii) the Cauvery (above and below the reservoir) shall be limited to 1/3 of the existing area prior to the year 1910, the extension under each channel being considered separately.

16. In lieu of 9,274 acres of old irrigation to be submerged by the Krishnarajasagara with F.R.L. at 118 feet above bed of river or 106 feet above the sill of the low level sluices now in existence, Mysore shall be entitled to extend irrigation to an area of 12,500 acres, without passing compensation water to Madras, under canals or channels taking off from the Hemavathi, the Lakshmanathirtha or the Cauvery, constructed subsequent to the year 1910 and above the Krishnarajasagara. In the event of the Krishnarajasagara being constructed of such a capacity as to submerge less than 9,274 acres, the permissible extension shall be reduced according to the area actually submerged and in the ratio of 12,500 to 9,274 and when a larger area is sumberged owing to the capacity of the reservoir being increased to 44,827 millions cubic feet (F.R.L. 124 feet above bed of river or 112 feet above the sill of the low level sluices now in existence) the permissible extension shall be similarly increased in the same proportion on such larger area as may be actually submerged.

17. The quantity of water in cusecs due to Madras as compensation for water utilised by Mysore for the area in excess of that provided in rules 15 and 16 shall be calculated by dividing such excess area irrigated by 40.

VI. Computation of Issues.

18. The quantity of water to be passed to Madras shall be computed every 12 hours from the records of inflow of the previous 12 hours.

19. (1) For the purpose of orders for the regulation of the sluice shutters, the quantities of water to be passed through the sluices shall be computed by the application of the formula :—

$D = C.A. \sqrt{2gh}$.
D=Discharge in cusecs.
C=Co-efficient.
A=Height of shutter raised, multiplied by width of vent both in feet.
g=32.
h=Effective head in feet.

Joint observations shall be made annually to determine the value of C until values covering the whole range of water level in the Krishnarajasagara have been determined by mutual agreement.

(iii) A suitable formula arrived at by mutual agreement for the discharge over the waste weir shall also be applied when details are known.

20. The quantity of water actually passed down shall be verified by observation between the Krishnarajasagara and the Chikdeveraysagar anicut. The means of such verification shall be decided on by mutual agreement.

VII. Hot Weather Computation of Issues from the Krishnarajasagara.

21. From the 28th January to the 27th May, both days inclusive, when rule 12 (i) is in operation, or from the 25th February to the 27th May, both days inclusive, when rule 12 (ii) is in operation, the Controlling Officer shall receive information from Sivasamudram at least twice daily of the flow during the previous 12 hours at Sivasamudram anicut and shall by occasional visits verify the same.

22. The quantity to be issued from the Krishnarajasagara shall be such quantity as will ensure the passing at Sivasamudram anicut of the quantity provided for in rule 12.

VIII. Regulation Register.

23. All regulation calculations and computations provided in any of the previous rules shall be recorded in a register called the 'Regulation register' and the orders for regulation which result from the computation shall also be recorded under the signature of the Controlling Officer.

IX. Regulation.

24. Regulation of sluices shall be made at twelve-hourly intervals, the times of commencement and completion of regulation being entered in the 'Regulation register.'

25. The Controlling Officer shall satisfy himself personally when the sluices are finally adjusted that the regulation has been accurately carried out in accordance with recorded orders certify that he has done so in the 'Regulation register.' Under extraordinary circumstances only shall the sluices be manipulated other than at 12-hour intervals and in such cases full information regarding the reasons and necessity for this and the nature of the intermediate regulation shall at once be communicated by the Controlling Officer to each Government.

26. (i) Any deficit or excess in quantity due to Madras indicated by the verification provided in rule 20 or by the water level in the reservoir shall be adjusted in the next period of regulation.

(ii) A computed issue from the Reservoir in excess of that computed as due to Madras may be recouped by Mysore by subsequent regulation; if however the over-issue was intentional, such recoupment shall be limited to 20 per cent of the computed issue due to Madras when the overissue was made; if the computed correct water level of the reservoir has been higher than the actual water level for each of the previous eight 12-hourly periods the actual water level, if below the computed correct water level, shall be taken as the correct water level whether the overissue was unitentional or intentional. The computed correct water level of the reservoir shall take account of actual issues for irrigation and losses due to evaporation.

(iii) The rates of evaporation shall be taken as given below until the end of the irrigation season 1924-25 :—

Month	*Inches per month*
June	5
July to February	4
March	5
April	7
May	8

After 1924-25 the rates for evaporation shall be determined as provided in instruction No. 7 of Part I of Appendix to these rules. These rates may be revised for final adoption in 1927 by mutual agreement.

(iv) In computing the issue to be passed to Madras through the undersluices or over the weir a deduction shall be made from the computed issue due to Madras of an amount equivalent to $\frac{1}{8}$ of the issues to the two existing low level irrigation channels taking off from the reservoir subject to a maximum deduction of 25 cusecs. No deduction shall be made from the computed issue due to Madras for water issued from the reservoir for irrigation other than that for the channels specified above.

(v) If the information provided for in Rule 21 shows that the quantity of water due to Madras under Rule 12 is deficient, the regulation shall at once be altered to ensure the passing at Sivasamudram anicut of the quantity by which the flow has been deficient in the previous 12 hours *plus* the 900 or 750 cusecs, as the case may be, provided for in rule 12, and each special regulation shall be entered in the 'Regulation register' referred to in rule 23.

X. Discharge at Cauvery Dam during the period ending 31st January 1927.

27. The exact formula for determining the discharge through the Upper Anicut shall be as specified in instruction 18 of the Appendix to these rules.

28. All regulation operations at the Upper Anicut and all data for calculating the discharge through the Upper Anicut sluices and also all gauge readings at the Cauvery Dam shall be recorded daily in a register under the signature of a responsible officer.

XI. Inspection of Records by either Government.

29. The Controlling Officer at the Krishnarajasagara shall afford every facility for inspection of his registers, books, calculations, records of regulation and actual method of regulation and gauge readings and discharge measurements and for testing of instruments in his charge to any officer of the Madras Government appointed and authorised by that Government to make such inspection or tests on their behalf. The said Controlling Officer and duly accredited inspecting officer shall have full use of telephones, telegraphs or other means of communication installed in connection with the works.

30. The responsible officer at the Upper Anicut referred to in rule 29 shall afford the same facilities for inspection and testing up to end of the irrigation season of 1926-27 as those provided for in rule 29, to any officer of the Mysore Government appointed and authorised by that Government to make such inspection or tests on their behalf.

XII. Miscellaneous.

31. The Controlling Officer at Krishnarajasagara shall make the following returns to each Government:—

(*a*) By post mail daily a copy of the entries made each day in the 'Regulation register' referred to in rules 23 to 26.

(*b*) By telegram daily or at such intervals as may be agreed on the quantity of inflow into and issue from the Krishnarajasagara during the previous 24 hours or during such intervals as may be agreed upon.

32. From the 1st June to the 31st January, both days inclusive, up to the 31st January 1927 a copy of the entries made each day in the register referred to in rule 28 shall be furnished to the Controlling Officer at the Krishnarajasagara by the Superintendent in charge of the Upper Anicut.

33. Photo copies of all diagrams of the self-recording instrument maintained by each Government shall be forwarded to the other Government monthly.

Such diagrams shall not be required from the Madras Government after the 31st January 1927.

A. H. MORIN, COLONEL,
Chief Engineer for Irrigation, Madras.

26th July 1921.

S. CADAMBI,
Chief Engineer, Mysore P.W.D.

26th July 1921.

APPENDIX TO THE RULES OF REGULATION.

Instructions for the preparation of working tables of (i) Impounding in the Krishnarajasagara and (ii) Aganda Cauvery discharges for making the examination referred to in rule 11 (ii) of the Rules of Regulation.

The period covered by the working tables and the examination of the effect of the Krishnarajasagara on supplies due to Madras at the Upper Anicut shall be from the 1st June 1917 to the 31st January 1927. Of these, the Krishnarajasagara working tables will be made in sample Form A for each year during the ten-year period; and the Cauvery Dam discharge tables will be made in sample Form B for only such periods when there is any impounding in the Krishnarajasagara as shown in sample Form A.

KARNATAKA STATE ARCHIVES LIBRARY
BANGALORE

PART I.

KRISHNARAJASAGARA WORKING TABLES.

(Vide *sample Form A.*)

The full effective capacity of the reservoir is to be taken as that connoted by the full reservoir level at 112 feet above sill level of the existing undersluices (124 feet above bed of the river before the construction of the dam), namely 44,827 millions cubic feet. The actual balance as obtained from the previous year's working tables or 5,000 millions cubic feet, whichever is the greater, should be taken as the starting balance on the 28th May of each year.

The balance on the 28th May 1917 should be that obtained from working tables of the year 1916 or 5,000 millions cubic feet, whichever is the greater, and the opening balance on the 28th May 1916 should be taken as 5,000 millions cubic feet.

2. *Column* (1).—The twelve-hourly period to be that ending 6 A.M. or 6 P.M.

3. *Column* (2).—The flow into the reservoir to be the measured flow at the three 'standard' gauging stations plus an allowance for the yield from the intermediate catchment; that is, 'Kn' in rule 10 of the Rules of Regulation computed from the readings provided in rule 13 (i) of the Rules of Regulation. From June 1916 to June 1922 the curves of discharge for the standard gauging stations above the reservoir shall be the average curves based on the discharge observations of the four years 1915 to 1918. From 1922 to 1926, both years inclusive, gaugings shall be made at the three standard gauging stations and the annual discharge curves obtained shall be used for the years concerned.

4. *Column* (3).—Regulation to be assumed to have been made in accordance with the Rules of Regulation for the whole period of eleven years and the quantity that may be impounded so derived to be entered in this column for each twelve-hourly period, the working tables in this form for 1916 being intended only for arriving at the starting balance in the reservoir on 28th May 1917.

The value of C in the impounding formula to be obtained from the curve used for arriving at the discharges at the Upper Anicut for the respective years—*vide* rule 11 (ii).

5. *Columns* (4) *and* (5).—The average draw-off in millions cubic feet for each twelve-hourly period for irrigation to be taken as follows for entry in columns (4) and (5).—

Month.	*Monsoon crop.*	*Perennial crop.*
June, first-half ..	..	27
June, second-half ..	51.5	27
July to November ..	51.5	27
December	34.5	27
January, first-half ..	25.7	27
January, second-half ..	..	27
February to end of May ..	..	27

6. *Column* (6).—The issues for power to be those actually recorded but subject to a minimum of 900 cusecs measured at Sivasamudram during the period 28th January to 27th May, both days inclusive, and entered in this column.

7. *Column* (7).—The allowances for evaporation to be determined for each month by mutual agreement after making joint observations during the three irrigation seasons ending and including 1924-25, quantities being deduced on the opening balance of the reservoir every day at 6 A.M. and 6 P.M.

8. *Column* (8).—Instruction in heading to be followed.

9. *Column* (9).—Instruction in heading to be followed.

10. *Column* (10).—Balance of previous twelve-hourly period *plus* column (9) or 44,827 millions cubic feet, whichever is less, to be entered in this column.

11. *Column* (11).—Any excess of the algebraic sum of the quantity in column (9) and that for the previous twelve-hourly period in column (10) over 44,827 millions cubic feet, to be entered in this column.

12. *Column* (12).—Instruction in the heading to be followed.

A. H. MORIN, COLONEL,
Chief Engineer for Irrigation, Madras.

26th July 1921.

S. CADAMBI,
Chief Engineer, Mysore P.W.D.

26th July 1921.

SAMPLE FORM 'A'

Quantity of the natural flow of the Cauvery impounded in the Krishnarajasagara.

(All quantities in millions cubic feet.)

Twelve hourly period ending		Flow into the Krishnarajasagara	Quantity that may be impounded	Draw off				Total draw off (columns 4+5+6+7)	Net quantity that may be impounded (column 3—column 8)	Balance in reservoir	Surplus from reservoir	Quantity impounded in the Krishnarajasagara column 3-column 11	Remarks
Date	Hour			Monsoon crop	Perennial crop	Power	Evaporation						
(1-a)	(1-b)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)

PART II.

AGANDA CAUVERY DISCHARGE TABLES.

(Vide *Sample Form 'B'*.)

13. The examination of the effect of impounding in the Krishnarajasagara to be made in sample form B. Entries will only be made in this table for actual impounding periods of six consecutive twelve-hourly periods and over as exhibited in Sample Form 'A'.

14. *Column* (1).—The number to refer to the whole impounding period.

15. *Column* (2).—The entry is this column to refer only to dates of an impounding period shown in Sample Form 'A' and not to date in column (3). For the purpose of this examination the impounding period will be taken to include any interval up to and including six twelve-hourly periods between actual impounding period and the succeeding actual impounding period as defined in instruction 13 above.

16. *Column* (3).—The date and hour of the first entry of an impounding period made in this column to be those 24 hours prior to the end of the first twelve-hourly period of impounding shown in Sample Form 'A'. The date and hour of the last entry of an impounding period to be those 48 hours after the last twelve-hourly period of impounding shown in Sample Form 'A', as determined by instruction 15 above.

17. *Column* (4).—The time for transmission from the Krishnarajasagara to the Upper Anicut shall be taken as the average indicated by a comparison of such peak gauge readings of the Chikdevarayasagar and Upper Anicuts as are available up to the end of 1921, fractions of a twelve-hourly period less than six hours in the average result being neglected and those greater than six hours being taken as one twelve-hourly period. Only peak gauges from half a foot below the limits in rule 7 of the Rules of Regulation up to 9 feet in the south-west monsoon and 7½ feet in the north-east monsoon to be taken into account. Separate averages to be deduced for the south-west and north-east monsoons.

18. *Column* (5).—The total discharge in the Aganda Cauvery (*a*) and (b) below to be calculated from the records of the automatic water level recorder, if the readings of the gauge made at 6 A.M., NOON and 6 P.M. show the recorder to have registered accurately, otherwise the readings of the gauges made at 6 A.M., NOON and 6 P.M. to be used and the discharges averaged for each twelve-hourly period.

(*a*) The discharge of the Cauvery shall be that given by the discharge curves for the Cauvery Dam gauge provided in rule 11 (ii) of the Rules of Regulation.

(*b*) The discharge through the Upper Anicut regulators to be calculated as laid down in paragraph 13 of Part II of Volume III of 'Papers regarding the Cauvery Reservoir Project' (pages 7 and 8)account being taken of any intermediate regulation.

19. *Column* (6) (*a*).—The quantity to be entered in this column is that due to the actual rise in the reservoir, as shown from the Regulation records, *plus* the loss due to evaporation, *plus* the recorded issue for irrigation after making the deduction provided for in rule 26 (iv) of the Rules of Regulation.

Column (6) (*b*).—The quantity to be entered in this column is that due to the actual fall in the reservoir, as shown from the Regulation records, *minus* the loss due to evaporation, *minus* the recorded issue for irrigation after adding the deduction provided for in rule 26 (iv) of the Rules of Regulation.

20. *Column* (7).—A percentage allowance, if decided to be necessary to be made for loss in transmission between the Krishnarajasagara and the Upper Anicut. This allowance to be settled by mutual agreement in June 1926 after further examination of the subject and any joint observations made to determine it; in the event of disagreement the case to be referred to the Government of India for final decision. Figures corresponding to column (6) (*a*) will be a *plus* entry in this column and those corresponding to column (6) (*b*) a *minus* entry.

21. *Column* (8).—Instruction in heading to be followed.

22. *Column* (9).—The quantity due to Madras in any twelve-hourly period to be the whole natural flow of the Aganda Cauvery or the discharge connoted by the gauge-readings in rule 7 of the Rules of Regulation obtained from the discharge curves referred to in rule 11 (ii) of the Rules of Regulation, whichever is less.

23. *Columns* (10), (12), (13) and (14).—Instructions in headings to be followed.

24. *Column* (11).—See instruction 20 above.

25. The several periods in column (1) should be sorted out against the several months showing against each month the percentage of deficit obtained in column (14). If the actual impounding period extends over portions of two months as noted in column (2), then the resulting percentage in column (14) to be counted against both the months.

26. After thus sorting out the periods for all the ten years against the several months, the resulting deficit in excess of 5 per cent is to be neglected if it happens in only one period of examination relating to a particular month. If it happens in more than one period the proportion factor is to be increased so as to reduce the number of such deficit periods to one only in any month.

A. H. MORIN, COLONEL,
Chief Engineer for Irrigation, Madras.

26th July 1921.

S. CADAMBI,
Chief Engineer, Mysore P. W. D.

26th July 1921.

KARNATAKA STATE ARCHIVES LIBRARY BANGALORE Acc No.....

SAMPLE FORM B.

(All quantities in millions cubic feet).

Serial number	Month or months affected by impounding in the Krishnarajasagara.	Twelve-hourly period ending		Natural flow in the Aganda Cauvery						Flow in the Aganda Cauvery after impounding in the Krishnarajasagara for the whole impounding period			Effect of impounding in the Krishnarajasagara with tentative values of "P" on the natural flow of the Aganda Cauvery due to Madras under the terms of settlement	
		Date	Hour	Twelve-hourly period ending		Actual discharge of the Aganda Cauvery for the twelve-hourly period in column (4	Increase in storage in the Krishnarajasagara as given by actual levels+actual loss by evaporation+actual draw off for irrigation—1/8 of actual draw off for irrigation limited to 25 cusecs	Decrease in storage in the Krishnarajasagara as given by actual levels—actual loss by evaporation—actual draw off for irrigation+1/8 of actual draw off for irrigation limited to 25 cusecs	Equivalent of quantity in column 6(a) or 6(b) at the upper Anicut after allowing for loss in transmission with + or—as the case may be	Natural flow in the Aganda Cauvery for the twelve-hourly period in column 4 [the algebraic sum of columns (5) and (7)]	Quantity of natural flow in column (8) due to Madras, either limited flow or the quantity in column (8) whichever is less	Quantity impounded in the Krishnarajasagara for the whole period given in column (3 corresponding to the number in column (1) [From column (12) of sample Form A]	Equivalent of quantity in column 10) at the Upper Anicut after allowing for loss in transmission	Resulting flow in the Aganda Cauvery after impounding for the whole period given in column (4) corresponding to the number in column (1) [Total column 8—column 11)]	Deficiency of resulting flow in Column 12 on total quantity in column (9). [Total column 9: column (12]	Percentage of deficiency in column (13) on total quantity in Col. 9) Col 13 / Total Col. (9) ×100
(1)	(2)	(3a)	(3b)	(4a) Date / (4b) Ending hour		(5)	(6a)	(6b)	(7)	(8)	(9)	(10)	(11)	(12)	13)	(14)

P. HAWKINS,
Secretary to Government,
Public Works Department, Madras.

18*th February* 1924.

A. R. BANERJI,
Dewan of Mysore.

18*th February* 1924.

Annexure II.

The construction of a masonry dam and reservoir on the Cauvery river,—now known as the Krishnarajasagara,—at Kannambadi, 8 miles west of Seringapatam north latitude 12° 33′ 20″ and east longitude 76° 37′ 15″; such dam and reservoir to be of a storage capacity, not higher than 112 feet above the sill of the undersluices constructed in the body of the dam across the old river-bed portion, corresponding to 124 feet above the bed of the river before the construction of the dam; such reservoir to be of an effective capacity of 44,827 m.c.ft., measured from the sill of the irrigation sluices constructed at 60 feet level above the bed of the river up to the maximum height of 124 feet above the said bed of the river. (Note that the level of the bed of the river before the construction of the dam is taken as 12 feet below the sill level of the said under sluices.) Subject to the above specified modifications in regard to the maximum height of water stored, and the effective capacity, such dam and reservoir to be constructed in accordance with the design accompanying the Project Report furnished with the Dewan of Mysore's demi-official letter No. 2311, dated 16th May 1911.

P. HAWKINS,
Secretary to Government,
Public Works Department, Madras.

18*th February* 1924.

A. R. BANERJI,
Dewan of Mysore.

18*th February* 1924.

ANNEXURE III.

Points agreed to at the Conference between the Chief Engineers of the Madras and Mysore Governments regarding the Cauvery dispute.

The technical agreement of the Krishnarajasagara, come to in 1921 between the Chief Engineers of the two Governments, will be taken as finally settled subject to the alterations in rules 15 and 17 now agreed to as shown in Appendix I, and the Krishnarajasagara question also settled according to that agreement.

2. The extent of future extension of irrigation in Mysore under the Cauvery and its tributaries mentioned in Schedule A of the 1892 Agreement shall be fixed at 110,000 acres, and Madras shall have their Cauvery-Mettur Project as revised in 1921 with their new area of irrigation fixed at 301,000 acres, as specified in paragraph 11, page 4 of the Project Report (1921), Volume V.

3. Such extensions of future irrigation in Mysore will be carried out only by means of reservoirs on the Cauvery and its tributaries mentioned in Schedule A of the 1892 Agreement. Such reservoirs may be of an effective capacity of 45,000 millions cubic feet in the aggregate; and the impounding therein shall be so adjusted as not to make any material diminution of the supplies connoted by the gauges accepted in the technical agreement for the Krishnarajasagara, it being understood that the rules for the working of such reservoirs shall be so framed as to reduce to within 5 per cent, any loss during any impounding period in excess of 5 per cent by the adoption of suitable proportion factors, impounding formula, or other means that may be settled at the time.

4. Full particulars and details of such reservoir schemes shall be furnished to the Madras Government to enable them to satisfy themselves that the conditions in paragraph 3 above will be fulfilled. If there arise any difference of opinion between the Madras and Mysore Governments regarding any scheme sent by the Mysore Government, the matter shall be settled in accordance with clause IV of the 1892 Agreement.

5. The reserve storage for power generation purposes now allowed in the Krishnarajasagara may be utilised from any other reservoir, according to the convenience of Mysore; and the storage released from the Krishnarajasagara may be utilised for irrigation within the extent of 110,000 acres noted above. In that case, the working tables of the new reservoir from which power water will be utilized, will be framed after taking into consideration the conditions specified in paragraph 3 above and the altered conditions of irrigation under the Krishnarajasagara.

6. It is suggested that the present limitation in regard to the extension of new irrigation as in paragraph 2 above shall hold good for a period of 50 years; at the end of that period it may be subject to reconsideration.

A. V. RAMALINGA AYYAR,
Chief Engineer for Irrigation, Madras.

14*th September* 1923.

S. CADAMBI,
Special Officer, Krishnarajasagara Works.

14*th September* 1923.

APPENDIX I.

Alterations in Rules 15 *and* 17 *of the Technical Agreement of* 1921.

Rule 15.—After the words 'the year 1910' at the end of the rule, *add* the words 'the extension under each channel being considered separately.'

Rule 17.—In line 1 after the words 'The quantity of water,' *add* the words 'in cusecs.'

P. HAWKINS,
Secretary to Government,
Public Works Department, Madras.

18*th February* 1924.

A. R. BANERJI,
Dewan of Mysore.

18*th February* 1924.

AGREEMENT.

WHEREAS on the 18th February 1924 an agreement between the GOVERNMENTS OF MYSORE and MADRAS was signed and whereas by clause 10 (2) of the said agreement, the Mysore Government agreed to regulate the discharges through and from the Krishnarajasagara reservoir strictly in accordance with the Rules of Regulation being Annexure I to the said agreement and

WHEREAS disputes had arisen between the two Governments in regard to the interpretation, operation and carrying out of rules 7 and 8 of the said Rules of Regulation and

WHEREAS both the Governments have submitted the matters in dispute to the Arbitration of the Honourable Mr. Justice Page with Messrs. Howley and Forbes as assessors.

Now the two Governments have agreed in lieu of an award in that behalf to adopt finally for all Regulation subsequent to 1st July 1929 the following discharges for the respective months in place of the average referred to in clause 8 of Annexure I :—

June for 6½ feet gauge ..	29,800	cusecs
July and August for 7½ feet gauge	40,100	„
September for 7 feet gauge ..	35,000	„
October for 6½ feet gauge ..	29,800	„
November for 6 feet gauge ..	25,033	„
December for 3½ feet gauge ..	8,913	„
January for 3 feet gauge ..	6,170	„

and in rule 10, defining the impounding formula, C will denote the said abovementioned discharges.

THIS agreement is without prejudice to the other questions outstanding between the parties in regard to the clauses of the Agreement other than clauses 7 and 8 of the rules of Regulation.

17*th June* 1929.

(Sd.) R. RANGA RAO,
Offg. *Chief Secretary to the*
Government of Mysore.

(Sd.) A. J. LEACH,
Secretary to the Government,
Public Works and Labour Department
Madras.

(4) 1933 Agreement.

Agreement reached at the Conference of Mysore and Madras held in the Secretariat at Bangalore on the 4th and 5th September 1933.

1. (i) As regards repairs to irrigation reservoirs falling within the definition in Rule I(3) of the Agreement of 1892—whether they involve the increase of the level of waste weirs or the construction of new reservoirs in substitution of old ones—intimation will, as far as possible, be given by Mysore in future before the work is commenced with details of what is proposed to be done. The Madras Government will, as far as possible, give similar information in respect of similar works in the Madras Presidency which may affect the prescriptive rights for which protection may be claimed under the rules in the Agreement of 1892.

(ii) By analogy, the construction of new anicuts in place of existing ones will be treated similarly, but Mysore and Madras Governments will, as far as possible, give similar intimation before work is commenced.

(iii) An anicut will include any construction of rough stone (dry) or masonry across a river either in part or fully and in any direction which will have the effect of diverting water from the river, but the consent of the Madras Government will not be required under the Agreement of 1892 for the construction of any new anicut if there is to be no irrigation under it.

2. *Construction of a new tank across the Bandihalla at Thippaganahalli, Goribidanur Taluk.*—If the Mysore Government agree to reduce the maximum storage capacity of the Srinivasasagar by 200 units to 410 units and to reduce the maximum atchkat by 100 acres to between 700 and 800 acres, the Madras Government will consent to the proposal to construct the new tank with storage capacity of about 450 units and an atchkat of 600 acres.

3. *Rajavanthi Tank, Pavagada Taluk.*—The recommendations made in the notes of Joint Inspection are accepted as equitable to both the Governments.

4. *Distribution of water of the Suvarnamukhi, tributary of the Hagari between the British Agali channel and the Mysore Kittagali channel.*—The Mysore Government

agreed to the provision of shutters for the vents to be reopened in the anicut provided that they are operated not necessarily after the Agali tank fills, but as soon as the flow in the Agali channel attains a certain height, which will be determined by agreement between the two Chief Engineers.

The draft agreement, already forwarded may be concluded with this modification.

5. *Diversion of water from the Handihalla stream into the supply channel to the Bodimarlur tank.*—As the Mysore Government have shown from records that the tank is an old one which existed at the time of the agreement of 1892, and had then an irrigated area not less than it has now, the proposals of the Mysore Government will be accepted.

Note.—The Mysore Government will send a note on this subject.

6. *Distribution of water between the Mysore village of Katamguntapalli and the British village of Byrangi in Chittoor District.*—After examining the plans of the anicut and head works and the irrigation interests of the ryots of both parties, it was agreed that the two existing channels in the river bed leading to the respective vents in the anicut may be linked by Madras by means of a connecting channel parallel to the anicut somewhere above it subject to the condition that the Mysore Jodidar shall have a right to put up a temporary cross bund not exceeding 18 inches above the cill level of the vents in the anicut across this connecting channel and also a temporary cross bund across the Byrangi channel just below the existing regulator, in order to enable him to utilise the summer flow between the 1st January and 30th April every year.

7. *Groyne wall at the head of the Gangasandra Feeder Channel from the North Pennar.*—As the object of the feeder is to divert flood waters and not low supplies, Mysore has no objection to dismantling if considered necessary, a portion of the Groyne wall, retaining the remaining length so as to give an entrance to the channel during floods. In order to determine by mutual agreement what exactly this length should be, it was agreed to make joint survey of the river at the feeder head.

8. *Rampur anicut across the Jayamangali River.*—It is agreed to allow the anicut to remain as constructed on the understanding that the size and the number of vents in it and the head sluice of the channel will be altered by Mysore, if this is found necessary after an examination of the figures of irrigation under the anicut and lower down the river both in Mysore and British limits, which figures should be furnished as early as possible by either party to the other, the interests of the direct irrigation under the channel from the anicut being adequately safeguarded.

9. *Interception of the supplies to the British Manchimillacheruvu of Kodikonda village in the Hindupur Taluk.*—It is agreed that there is no objection to closing the vents in the anicut since they have been held to be vents left during the construction of the anicut.

10. *Application of the definition of "Repairs to Irrigation reservoirs" to "Repairs of Anicuts" by analogy.*—This is agreed to—*vide* item 1(2). It is also agreed that there should be no objection to Madras carrying out simple or ordinary repairs to anicuts or other works of the Madras Government situated in Mysore Territory. An intimation will be given to the Mysore Government of what is proposed to be done in such cases.

11. *Deficient supplies in the Jayamangali river.*—The Mysore Government agreed to supply to the Madras Government figures of storage and irrigation under the tanks and channels fed from the river in Mysore territory below its junction with the Garudachala river.

12. *Deficient supplies in the Palar river.*—The Mysore Government agree to examine whether, and to what extent, it is possible to supply the information asked for by the Madras Government, and if so, at what cost.

(Sd.) M. G. RANGAIYA,
Chief Engineer and Secretary
to the Government of Mysore,
Public Works Department.
5-9-1933.

(Sd.) N. GOPALASWAMY,
Secretary to the Government,
Public Works & Labour Departments,
Government of Madras,
5-9-1933.

(5) 1935 Suvarnamukhi Agreement—Agali and Kittagali Tanks.

Agreement entered into this the twenty-sixth day of August, one thousand nine hundred and thirty-five between the Government of Mysore of the one part and the Government of Madras of the other part.

WHEREAS the parties hereto have agreed that the water in the Suvarnamukhi river shall be distributed between the raiyats holding lands in the Mysore State and those holding lands in the British India and generally that the rights of the parties hereto to the water in the said river shall be regulated by the terms and conditions and in the manner following :—

NOW THIS INDENTURE WITNESSETH

1. The breadth and depth of the Agali channel more particularly delineated in the map or plan hereto attached and coloured RED thereon shall be fixed as they now exist and permanent works shall be erected at the cost of the Government of Madras and under the supervision of the Engineers of the Madras and the Mysore Governments to show the breadth and depth so fixed.

2. The Government of Madras or the raiyats of Agali village or any person on their behalf not at any time erect any temporary bund over the Agali anicut.

3. The Government of Madras or the raiyats of Agali village or any person on their behalf shall be entitled to cause the silt in the abovesaid Agali channel to be cleared as often as may be necessary PROVIDED HOWEVER that the Government of Madras or the Agali raiyats or any person duly authorised on their behalf through the officers of the Agali village send intimation to the Amildar of Madhugiri of the date from which such clearance will be commenced.

4. The Government of Madras shall be entitled as and when it may appear to them necessary to repair the said Agali anicut PROVIDED HOWEVER that the following conditions shall be observed in respect of such repair as aforesaid :—

(*a*) The present slope of the anicut from one side to the other shall not be changed or otherwise interfered with.

(*b*) The crest levels of the anicut shall not be raised or otherwise changed but shall remain the same as those fixed by the respective Engineers of the Government of Madras and Mysore who shall meet for such purpose before the repairs are undertaken and fix such levels and maintain a record of the same.

5. The Government of Madras shall at their cost open at lower end of the said anicut three vents of at least six feet span each at such places as may be decided upon by the respective Engineers of Madras and Mysore Governments and provide them with screw shutters. The sills of the vents shall be one and half feet below the bed of the said Agali channel at the head as determined by the said Engineers. The vents shall be worked by the Madras Government or any person duly authorised on their behalf during the period when the said river is in flood so as to prevent the accumulation of sand in the river bed above the anicut PROVIDED HOWEVER that the said vents shall be operated not necessarily after the Agali tank fills, but as soon as the flow in the Agali channel attains a certain height which will be determined by agreement between the Chief Engineers of the two Governments or their duly authorised agents.

6. The Government of Madras hereby undertake that the irrigation under the said Agali tank shall not at any time exceed its present registered ayacut of 884.27 acres.

7. The supply to the Maddalur and Irrigenahalli tanks shall be regulated by a separate agreement.

8. The breadth and depth of the Kittagali channel more particularly delineated on the map or plan hereto attached and coloured GREEN thereon shall be fixed as they now exist and permanent marks shall be erected at the cost of the Government of Mysore and under the supervision of the respective Engineers of the said Government to show the breadth and depth so fixed.

9. The Government of Mysore or the raiyats of Kittagali village on their behalf shall be entitled to erect a sand bank across the river with a width at the top not exceeding three feet and a height not exceeding three feet above the bed of the said Kittagali channel as determined by the said Engineers in manner aforesaid.

10. The said sand bank shall be erected along the course of the channel which carries water from the spring head on the right bank of the said river to the Hosahalli lands on the left bank of the said river and shall be removed by the Mysore Government or their raiyats of Kittagali on their behalf as soon as the water in the said Kittagali tank has reached its full tank level.

11. The Government of Mysore or the raiyats of Kittagali village or other persons on their behalf shall be entitled to cause the silt in the said Kittagali channel to be cleared as often as may be necessary.

12. The raiyats of Hosahalli village shall enjoy the existing privileges in conveying the spring water from the spring head on the right bank of the said river to irrigate their lands on the left bank of the said river. Such water may be taken across the river only after the rains cease.

13. The Government of Mysore hereby undertake that the irrigation under the said Kittagali tank shall not at any time exceed its present registered ayacut of 64 acres.

14. All the foregoing conditions shall be subject to revision by mutual consent in case of any abnormal change occurring in the regime of the river due to extraordinary floods or other natural and physical phenomena.

IN WITNESS WHEREOF, A. V. Ramanathan, Esq., B.A., Chief Secretary to the Government of His Highness the Maharaja of Mysore, and Herbert Rex Usielli, Esq., C.I.E., I.C.S., Secretary to Government of Madras, in the Revenue Department, have hereunto set their hands and seals the day and year first above written.

(6) Rampur Anicut across Jayamangali.

Agreement between the Chief Engineer for Irrigation, Madras and the Chief Engineer of Mysore regarding the division of the waters of the Jayamangali river at the Rampur Anicut in Mysore State (1944).

Under Clause 8 of the 1933 Agreement relating to the Rampur Anicut across the Jayamangali River in Mysore State, it has been agreed between the Governments of

Mysore and Madras "to allow the anicut to remain as constructed on the understanding that the size and the number of vents in it and the head sluice of the Rampur channel will be altered by Mysore, if this is found necessary, after an examination of the figures of irrigation under the anicut and lower down the river both in Mysore and British limits which figures should be furnished as early as possible by either party to the other, the interests of the direct irrigation under the channel from the anicut being adequately safeguarded."

2. In pursuance of that agreement, the figures so gathered are as under:

1.	Direct ayacut served by the Sompur Spring channel supply	211 acres.
2.	Ayacut under the Rampur tank	304 „
	N.B.—Both the above draw supply from the same head sluice from above the Rampur anicut across the Jayamangali.	
3.	Mysore ayacut under the Jayamangali below the Rampur anicut	*3,907 „
4.	Madras ayacut under the Jayamangali between the Mysore-Madras frontier and the infall of the Jayamangali into the Pennar	*4,379 „

In arriving at the ayacut figures above, the ayacuts under wells have been omitted.

3. As suggested at the Conference between the Fourth Adviser to H. E. the Governor of Madras and the Dewan of Mysore at Bangalore on 24th January 1944, the Rampur anicut and its head works were jointly inspected by the Chief Engineer for Irrigation, Madras, and the Chief Engineer of Mysore, on 3rd February 1944. There are three scouring vents, each of about 3 feet × 2 feet in the anicut with the average cill at plus 97.40, the anicut crest being plus 100.00. The head sluice is of 3 vents of 3 feet × 4 feet with cill at 97.93 with an under-vent of 2 feet × 1 foot with cill at plus 95.79.

(For details, *vide* statement attached).

4. A Conference was then held, the following Officers being present :

MYSORE :

(1) L. A. H. Winkler. Esq., A.C.G.I., M.I.E.(Ind.), J.P., Chief Engineer, Mysore, and

(2) Sri Krishna Ayyangar, Executive Engineer, Tumkur Division, Mysore Public Works Department.

MADRAS :

(1) Sri *Rao Bahadur* N. Govindaraja Ayyangar, B.A., B.E., Chief Engineer for Irrigation, Madras.

(2) H. G. Jackson, Esq., B.SC., A.M.I.C.E., Superintending Engineer, Ananthapur Circle, and

(3) Sri P. S. Nataraja Ayyar, B.E., Executive Engineer, Madanapalle Division.

The best method of implementing the 1933 agreement as extracted above was discussed and the following have been agreed to between the two Chief Engineers, without prejudice and subject to ratification by the respective Governments.

(*a*) (1) the direct irrigation under the Sompur channel will have the first preference ;

(2) the Mysore ayacut downstream of the Rampur anicut will have the second preference ;

(3) the Madras ayacut under the Jayamangali will have the third preference ; and

(4) the fourth preference will be for the ayacut under the Rampur tank.

(*b*) The scouring sluice in the anicut will be remodelled by Mysore to have the same vent-way as it has now, *viz.*, 18 square feet with cill level as existing ; the revised vents may be 2 of 4½ feet × 2 feet.

(*c*) The Sompur channel shall be free to draw the requirements for its 211 acres throughout the year through the under-vent or head sluice vents as may be considered necessary.

(*d*) During the period 1st June to 31st December, the scouring sluices should be kept open except as provided for in clause (*g*) below.

(*e*) So long as the anicut does not surplus with the under-sluices fully opened, no supply is to be drawn for the Rampur tank except under clause (*h*) below.

(*f*) When the anicut surpluses, the combined channel in rear of the Rampur head sluice can draw up to its maximum carrying capacity (estimated at 40 cusecs) for filling up the Rampur tank and for the direct ayacut.

(*g*) If the Executive Engineer, Mysore, decides that it is unsafe to keep the under-sluices open when high flood surpluses over the anicut, it is left to his discretion to keep the under-sluices closed, subject to the condition that the Rampur tank ayacut can only draw its supply if the combined discharge below the anicut, *i.e.* ,through the under-sluices and over the anicut exceeds the discharge that will obtain if the under-sluices are kept fully opened and the anicut is just about to surplus (this discharge is estimated at about 130 cusecs).

(*h*) Till the gaugings referred to in para (*j*) below are completed, examined and a settlement arrived at between the Chief Engineers of Mysore and Madras, the Executive Engineer, Tumkur Division, can keep the scouring vents partially or fully closed between the 1st June and 31st December in order to supply the Rampur tank when condition (3) above obtains, if in his opinion irrigation under the Rampur tank will suffer otherwise and in consultation by letter with the Executive Engineer, Madanapalle Division. The Executive Engineer, Madanapalle Division, will refuse consent if in his opinion the seasonal conditions are such that the lower irrigation will suffer by giving the consent.

(*i*) The regulation of the scouring sluice and head sluice and under-sluices will be under a reasonable P.W.D. Subordinate of the Mysore P.W.D. working directly under the orders of the Executive Engineer, Tumkur Division, and a daily water report of the form as might be agreed to between the two Chief Engineers furnished to them.

(*j*) With a view to see if even during non-surplussing days between the 1st June and 31st December any supply can be given to the Rampur tank without affecting prejudicially the irrigation below the Rampur anicut, daily gauge readings at the anicut and the frontier will be taken during that part of the year for a period of three years at the cost of the respective Governments. Details

regarding gauges to be fixed, regulation particulars, etc., will be settled jointly between the Executive Engineer, Tumkur Division, and the Executive Engineer, Madanapalle Division, and the daily water reports of each site forwarded to the two Chief Engineers.

(Sd.) N. GOVINDARAJAN,

Chief Engineer for Irrigation, Madras.

.....

Chief Engineer, Mysore.

STATEMENT.

Item	*Mysore* A. Gs.	*Madras* A. Gs.
(*a*) Under channels with their heads in the river itself having direct ayacuts depending on the river flow throughout the year ..	1,090 10	349 0
(*b*) Under channels and tanks jointly irrigating without separate figures for each	1,410 31	237 0
(*c*) Under tanks supplied by feeders from the river with flood waters	1,191 24	3,793 0
(*d*) Under channels benefitted by flood supplies in the river ..	214 15	..
Total ..	3,907 00	4,379 0

(7) BHADRA RESERVOIR AND SIVASAMUDRAM ROYALTY—1944 AGREEMENT.

Agreement between the Representatives of the Governments of Madras and Mysore in regard to sharing of the water of the Tungabhadra.

WHEREAS the Government of Madras propose to construct a reservoir on the Tungabhadra beyond the territory of Mysore.

AND WHEREAS the Government of Mysore also propose to construct a reservoir near Lakkavalli in the Bhadra, a tributary of the Tungabhadra, hereinafter referred to as the Lakkavalli Reservoir.

AND WHEREAS the Governments of Madras and Mysore consider it necessary and expedient to come to a settlement *inter-se* in regard to the sharing of the waters of the Tungabhadra Basin above Mallapuram.

AND WHEREAS the question of the sharing of the waters of the Tungabhadra Basin between the Governments of Madras and Mysore and the question relating to the Sivasamudram royalty payable by the Government of Mysore to the Government of Madras were discussed by the Representatives of both the Governments at Fort St. George, Madras, on 3rd and 4th and 5th December 1936.

AND WHEREAS the Governments of Mysore and Madras have come to a mutual settlement in regard to the sharing of the waters of the Tungabhadra Basin above Mallapuram and in regard to the amount of royalty paid to the Government of Madras in respect of the utilisation of their share of the waters in the Cauvery at Sivasamudram by the Government of Mysore for power purposes.

AND WHEREAS the waters of the Bhadra and Tungabhadra were jointly gauged by the Representatives of the Governments of Madras and Mysore at Lakkavalli, Mallapuram and Sunkesala Anicuts.

AND WHEREAS as a result of the said gaugings and discussions the net dependable flow at Mallapuram after meeting the requirements of existing irrigation above Mallapuram, was agreed to as 3,40,000 M.Cft.

NOW THESE PRESENTS witness that His Excellency the Governor of Madras and the Government of Mysore do hereby agree and bind themselves, their successors and representatives as follows :—

Part I—Relating to "Sharing of the waters of the Tungabhadra."

1. From the total yearly flow of the Bhadra river at Lakkavalli, the Government of Mysore shall be entitled to draw off through sluices a quantity of water not exceeding 57,000 M.Cft. nett. for irrigation and power purposes from the Lakkavalli Reservoir. The reservoir shall

be of such capacity as may be agreed upon between the two Governments and as is necessary to enable the Government of Mysore to draw off annually through slauces 57,000 M.Cft. referred to herein and the additional quantity referred to Clause 6.

The Government of Mysore shall not be entitled to draw any supply for any purpose at any other point on the Bhadra river save and except the Government of Mysore may draw off water;

(*a*) for supply to factories and town from the said river;

(*b*) at the existing Bhadra anicut for the irrigation of an area not exceeding 20,800 acres inclusive of the area now irrigated from the anicut.

Neither the existing Bhadra Anicut nor its scouring sluices nor the head sluices for the right and left bank channels shall be altered in any manner save with the previous consent of the Government of Madras, which consent shall not be unreasonably withheld or refused.

Nothing in this Clause shall be deemed to affect the rights of the riparian and owners to take water to which they may be entitled under the law.

2. The Government of Madras agree to the Government of Mysore increasing the capacity of the Lakkavalli Reservoir beyond the limit permissible under Clause 1 in order to enable the Government of Mysore to have additional storage solely for power purposes the supply required for such purposes being drawn off through the sluices; but such additional storage shall be returned without diminution (except diminution by reason of evaporation and percolation) within the same year to the river Bhadra below the existing Bhadra Anicut through sluices or in such other manner as may be mutually agreed upon by the Government of Madras and Mysore and in accordance with the working tables and rules of regulation approved by the Chief Engineers of the two Governments.

3. The Government of Mysore agree to furnish full details of the works proposed to be executed by them in pursuance of Clauses 1 and 2 together with the rules of

regulation proposed for the new reservoir to the Government of Madras, and obtain their specific consent to such execution and to those rules before starting such works and the said consent shall not be unreasonably withheld or refused.

4. The Government of Mysore also agree to prepare and furnish to the Government of Madras detailed working tables showing how the Government of Mysore propose to give effect to Clauses 1 and 2 and the rules of regulation referred to in Clause 3. Separate working tables shall be prepared to show :

(*a*) the capacity of the reservoir required to ensure to the Government of Mysore and the draw off of 57,000 M.Cft. referred to in Clause 1 and the additional quantity referred to in Clause 6 ;

(*b*) the capacity required in addition to ensure to the Government of Mysore their power requirements according to Clause 2.

If when working tables are drawn up, it is found that the supplies to existing irrigation as it stood in 1936 below Lakkavalli Reservoir would be adversely affected by the draw off for irrigation or power purposes under Clause 1 or Clause 2, the working tables and rules of regulation shall be so revised as to provide for passing such flow, limited to the natural Flow, down the river as may be necessary to safeguard the interest of such existing irrigation as well as to ensure the draw off for the Lakkavalli Reservoir as provided in this Agreement.

The Chief Engineers of the Governments of Mysore and Madras will prepare the working tables after such examination as may be necessary and come to a common speedy settlement in the matter of proportion factors, rules of regulation, monthly limit flows, etc., which will be subject to ratification by the two Governments ; and on such ratification such settlement shall be deemed to form part of this agreement.

5. The Government of Mysore further agree that immediately the draw off from the Lakkavalli Reservoir mentioned in Clause 1 begins, issues from the reservoir shall conform to the working tables mentioned in Clause 4.

6. The Government of Mysore shall also be permitted to draw off for all other new irrigation (including extension to existing irrigation) in the Tungabhadra basin above Mallapuram besides the water which the Government of Mysore may draw off at the existing Bhadra Anicut (under Clause 1) a total quantity of water not exceeding 15,000 M.Cft. evaporation losses being included in this quantity only in the case of tank and reservoir schemes) in the aggregate in the year, provided that such draw off shall not take place from the Bhadra. Nothing in this clause shall be deemed to affect the rights of the Government of Mysore to draw off water for factories and town from the Water Courses in the Tungabhadra Basin or the rights of the riparian land owners to take water to which they may be entitled under the law.

The Government of Madras note that the Government of Mysore have already prepared a scheme for utilising not more than 11,500 M.Cft. from an anicut to be constructed across the Tunga river near Sacrebyle. The Government of Mysore will be at liberty to proceed with this scheme and the quantity of water drawn off at the anicut shall count towards the 15,000 M.Cft. herein mentioned. In the event of the Government of Mysore not utilising the 11,500 M.Cft. for the above scheme, the Government of Mysore shall be at liberty to utilise the unutilised quantity for schemes in the minor valleys in the Tungabhadra Basin. Such utilised quantities shall include evaporation losses.

Full details of every other scheme proposed to be executed by the Government of Mysore for the draw off of the remaining quantity shall be furnished to the Government of Madras and their specific consent obtained before work is started on the scheme. In framing such schemes the interest of all existing irrigation in the respective valleys extending to the Tungabhadra river shall be fully safeguarded.

In the event of the Government of Mysore being unable for any reason to frame such schemes for valleys other than the Bhadra Valley in the Tungabhadra Basin above Mallapuram, or if the Government of Madras should withhold or refuse consent to any such scheme, the Government of Mysore shall be permitted to draw off from the Lakkavalli Reservoir a quantity of water not

exceeding 3,500 M.Cft. (including evaporation losses) out of the unutilised quantity of the said 15,000 M.Cft. This draw off shall be in addition to the 57,000 M.Cft. referred to in Clause 1.

7. The means and methods of measuring all inflows, issues, draw off and the like at any of the works authorised by the Clauses 1 and 2 or by Clause 6 shall be settled by the Chief Engineers of the Governments of Madras and Mysore before such works are started.

8. For the purpose of this Agreement "the year" shall commence on such dates as may be fixed by mutual agreements between the Chief Engineers of the Governments of Madras and Mysore, after working tables for such years as may be agreed upon by the two Chief Engineers have been drawn up and approved by them.

9. After the draw off to which the Government of Mysore is entitled under Clauses 1 and 6 after making an allowance of 12,000 M.Cft. for miscellaneous irrigation above Mallapuram there will be available at Mallapuram an estimated supply of 2,56,000 M.Cft. in respect of which the Government of Mysore do not claim any share as against the Government of Madras.

10. The Governments of Mysore and Madras agree that so far as they are concerned, the foregoing clauses shall constitute a final settlement of the rights of the respective Governments in the waters of the Tungabhadra Basin above Mallapuram.

If at any time at the instance of any other party such as Hyderabad claiming a right to the waters of the Tungabhadra it becomes necessary to have recourse to arbitration in respect of the sharing of the Tungabhadra waters and if the arbitration tribunal were to award to the Governments of Mysore and Madras a quantity different from those referred to in Clauses 1, 6 and 9 above, the two Governments hereby agree to abide by such award.

The Government of Madras agree that the Sivasamudram royalty of Rs. 20,000 per annum now agreed to—*vide* Part II of this Agreement shall not in any circumstances be reopened or revised.

11. Nothing contained in the foregoing clauses shall be deemed to qualify or limit it any manner the operation of the agreement dated the 18th February 1892 between the Governments of Madras and Mysore in regard to matters other than those to which this agreement relates.

12. The Government of Madras and the Government of Mysore hereby agree that if at any time there should arise any dispute between them touching the interpretation or operation or carrying out of this agreement, such dispute shall be referred for settlement by two Arbitrators, one to be appointed by each Government and in case of differences of opinion between the Arbitrators, the matter shall be referred to an Umpire appointed by both the Governments.

Part II—Relating to the Sivasamudram Royalty.

13. In consideration of Government of Mysore agreeing to the foregoing clauses in Part I, the Government of Madras agree in modification of the terms accepted by the Government of Mysore in their letter No. 150—D.C., dated 26th May 1900 regarding the royalty payable by the Government of Mysore for the utilisation of the waters of the Cauvery Falls at Sivasamudram for the generation of electric power to accept (in lieu of the payment of Rs. 5 per Electric Horse Power per annum for half the total water power utilised) a consolidated sum of Rs. 20,000 per annum with effect from the date of the expiry of the previous Agreement:

Provided always, that any water diverted from the river above the Falls for the generation of power shall be returned to the river below the Falls without being fouled or diminished in quantity as explained in letter No. 4221—302-94, dated 24th August 1900 from the First Assistant to the Hon'ble the Resident, to the Dewan and that the other terms and conditions of the previous agreement, *viz.*, those contained in sub-paragraphs (iv) and (v) of paragraph 3 of the Government of Mysore's letter referred to above and herein reproduced below shall continue to remain in full force.

Other terms and conditions referred to.

(iv) That a cessation on the part of the Durbar to utilise the water of the Falls for the generation of electrical power for two years shall operate to terminate the agreement.

(v) That for the purposes of the power works the Durbar to be vested with the control over the discharge in the river and its branches at and above the Falls and to be permitted to build two low dams, subject to the following stipulations :—

(a) That the Durbar shall not restrict or interfere with the amount of water for irrigation or other purposes to which amount the Jagirdar of Sivasamudram may be legally entitled; and

(b) That the Durbar shall reimburse and make good to the Madras Government all loss of damage which under the decision of a competent Civil Court may accrue in consequence of the Durbar's operations through the infringement of the legal rights of private persons.

(Sd.) N. MADHAVA *RAO*,
Representative,
Government of Mysore.

(Sd.) G. W. PRIESTLEY,
Representative,
Government of Madras,
24-7-1944.

SUPPLEMENT I (Page 1).

A. Mysore may proceed with the construction of the Sacrebyle anicut on the Tunga river subject to the condition that pending the construction of the Tungabhadra dam, Mysore shall not extract supplies from the Tunga at the Sacrebyle anicut during low flow period when such extraction is likely to adversely affect the existing Pre-Moghul irrigation. To ensure that the spirit of this

clause is complied with, regulation rules in this respect shall be framed by the Chief Engineers of the three Governments.

B. With regard to allowance for the rights of the Government of Mysore to draw off water for factories and towns from the water course in the Tungabhadra basin or the right of the riparian land owners to take water to which they may be entitled under the law or for the minor tanks in the Tungabhadra basin Hyderabad agrees to a specific figure limited to 4,000 M.Cft. of water.

C. Regarding the quantity of 57,000 M.Cft. exclusive of evaporation losses at the Lakkavalli reservoir under Clause (i) of the Mysore-Madras Agreement, Hyderabad does not commit herself either way to its acceptance or otherwise and shall be free to act under Clause (10) sub-para (2) of that Agreement. Subject to the above, Hyderabad does not object to the construction of the Lakkavalli reservoir.

D. The extension of irrigation from the existing Bhadra Anicut provided for under Clause (1)(b) of the Madras-Mysore Agreement, shall be permitted to subject to the same condition as laid down for the irrigation from the Sacrebyle scheme, mentioned under (A) above.

E. The Governments of Hyderabad, Madras and Mysore recognise the claims of Sangli, Bombay and any other riparian areas (excluding those of Mysore, Madras, and Hyderabad which are already covered by the two Agreements between Madras and Hyderabad and Madras and Mysore) to an equitable share of waters which shall be decided by a tribunal set by the Government of India for the purpose of final apportionment of the Tungabhadra water between all the interested parties; further the three Governments agree that the schemes under the two Agreements mentioned above are not intended to prejudice in any way the claims of Bombay, Sangli, etc.

F. In clause (2) of Madras-Mysore Agreement substitute "Below" for "Above" in the sentance "..... river Bhadra above the existing Bhadra Anicut ....."

(Sd.) ALI NAWAZ JUNG.

(Sd.) A. N. KHOSLA,
24-12-1945.

(Sd.) S. M. YOUNUS,
24-12-1945.

(Sd.) M. NARASIMHAIYA,
27-12-1945,
Chief Engineer for Irrigation,
(Mysore).

(Sd.) A. R. VENKATACHARI,
26-12-1945,
Chief Engineer for Irrigation,
(Madras).

(8)

Agreement made between the Government of H.E.H. the Nizam and the Government of Madras for the partial utilisation of the Tungabhadra waters.

1944.

Whereas a Conference was held at Shah Manzil, Hyderabad, on the 24th and 26th June 1944, between the marginally noted Representatives of the Governments of H. E. H. the Nizam and Madras to draw up a common scheme, without prejudice to the rights and interests of the other Governments concerned, for the partial utilisation of the Tungabhadra waters; it is hereby agreed between Government of H. E. H. the

Nawab Ali Nawaz Jung Bahadur for the Government of H.E.H. the Nizam.

Mr. S. V. Ramamurthi for the Government of Madras .

Nizam on one part and the Government of Madras on the other part as follows:—

(1) The Agreement is to enable the Government of H. E. H. the Nizam and Madras to start immediately a joint scheme for a partial appropriation of the Tungabhadra waters at Mallapuram leaving all matters of absolute rights and claims and disputed points for future settlement. It is, equally, to be clearly understood that the present arrangements of equal abstraction of water is not to be considered as any settlement of the rights in the waters of the Tungabhadra nor is it to serve as a basis for the building up of any rights of any of the Governments concerned.

(2) Each party may draw off sixty-five thousand million cubic feet (including evaporation losses) from the reservoir to be constructed across the River Tungabhadra at Mallapuram. Under the present arrangements, the total abstraction of water from the reservoir for use under the Tungabhadra work is not to exceed one hundred and thirty thousand million cubic feet. The question of the raising of the figure may be examined ten years hence or at a later date in view of the requirements of the projects at the instance of any of the two Governments concerned. The present agreed quantity of water will provide for the needs of all the irrigation under the Tungabhadra works, *i.e.*, the needs of the new and the Pre-Moghul irrigation and also the assistance to the Kurnool-Cuddapah Canal and the Rajolibanda Canal proposed by the Government of H. E. H. the Nizam, the latter being treated on an equal status with the former.

(3) Natural flow in the river below the Mallapuram reservoir, *i.e.*, floods from the reservoir, flow from the intermediate catchment and seepage into the Tungabhadra river, may be utilised by the respective Governments for Pre-Mogul irrigation in their territories and also for irrigation under the Rajolibanda Canal of Hyderabad and the Kurnool-Cuddapah Canal of Madras. These waters realised at the points of diversion may be drawn to the limit of their requirement in the Pre-Mogul channels but at the point of diversion of the Rajolibanda Canal, the natural flow shall be divided in equal measure between the respective Governments after making an extra allowance to the Rajolibanda Canal equivalent to the additional draw off by the Madras Pre-Mogul channels over the draw off of the Pre-Mogul channels of Hyderabad.

(4) The contribution to the Kistna will be met by regulated supplies from the reservoir and such waters may be utilised to develop power by the respective Governments and will not be debited to the quantity of sixty-five thousand million cubic feet mentioned in paragraph 2 above.

(5) The Government of Madras forego their claims to the low flows for the Tungabhadra and the Kistna irrigation in the present arrangement, the needs of such irrigation being provided for by regulated supplies from the reservoir.

(6) The respective Governments shall have the option to supply through the existing head sluices in the river or otherwise the Pre-Mogul channels.

(7) If either Government use the river bed for carrying water down to any lower point on the river, such Government shall retain their property rights in those waters.

(8) Both the Governments undertake to have the dam constructed with the view to impound a sufficient quantity of water for larger eventual utilisation than now agreed to, and to bear half the cost of such construction.

(9) Neither Government are bound to design their canal capacities in such a way as to be able to utilise only their allotted share of sixty-five thousand million cubic feet under the present agreement. But each Government are free to design larger canal capacities at their own risk.

(10) The following matters shall be examined by the Chief Engineers of the Governments of H. E. H. the Nizam and Madras in order to arrive at a common settlement which will be subject to ratification by the respective Governments :—

(*a*) Whether it is necessary to provide one set or more of sluice on each side for the requirements of new irrigation, old irrigation and for contribution to the Kistna.

(*b*) To fix the full reservoir level and sills of sluices and also the minimum level below which water may not be allowed to go down, no party being

entitled to ask for a higher level to be maintained at any time, when once the minimum level is fixed.

(*c*) To determine the contribution to the Kistna and the period over which it is to be distributed keeping in view the requirements of irrigation and development of seasonal power for not less than six months.

(*d*) To determine the apportionment between the two Governments of the contribution to the Kistna to be drawn for power purposes, giving some weightage to Hyderabad for the reason that at present such water will be used only for power by Hyderabad and for power and irrigation by Madras. This weightage is to apply until a Krishna reservoir comes to function.

(*e*) To examine and give their views as regards the estimate of the dependable supply at Mallapuram now put at three hundred and thirty-six thousand million cubic feet.

(*f*) To examine and give their views as regards the extra allowance to be given to the Rajolibanda Canal from the natural flow of the river at Rajolibanda anicut as per paragraph 3 above, fixing on a percentage basis the allocation of natural flow at Rajolibanda anicut between Madras and Hyderabad.

(11) This Agreement is in supersession of the agreement made on November 7th, 1938, and shall operate from.....

(9) SOUTHEHALLA AGREEMENT—COORG AND MYSORE

1948.

WHEREAS the Government of His Highness the Maharaja of Mysore (hereinafter called the Myore Government) was contemplating construction of an anicut across the Southehalla stream in Mysore territory and opening a feeder channel therefrom to augment supplies of water to Konanur tank.

AND WHEREAS the Governor-General of India (hereinafter called the Coorg Administration) was of the view that construction of the anicut would deminish the supply of water to the Sirangala anicut belonging to the Coorg Administration and situated along the course of the stream below the proposed anicut.

AND WHEREAS the two Governments have taken expert advice as to how the waters of the stream will be affected by construction of the proposed anicut.

AND WHEREAS the Mysore Government are agreeable to certain measures to safeguard the interests of the Coorg Administration, it is mutually agreed between the two Governments (the Mysore Government represented by their Chief Secretary and the Coorg Administration by the Secretary to the Chief Commissioner on behalf of the Governor-General of India) as follows :—

1. The Coorg Administration withdrew their objection to the construction of the proposed anicut across the Southehalla stream.

2. The Mysore Government undertake not to draw any supply of water from the head sluice of the new anicut when the discharge of water from the anicut is below 25 cusecs.

3. The Mysore Government shall be entitled to open the head sluice of the new anicut to the feeder channel in Mysore territory (hereinafter called Mysore feeder channel) when the discharge or spillage over the anicut crest exceeds 2″ (two inches) and shall be entitled to keep open the head sluice until the discharge of water continues at or over the aforesaid level. The Mysore Government shall close the head sluice as soon as the level of water falls below the aforesaid level.

4. The Mysore Government and the Coorg Administration shall each of them appoint a person or persons to carry out the terms of Clauses 2 and 3 above.

5. The Coorg Administration shall have a separate regulator of their own at the right flank of the new anicut which regulator shall be kept not more than two feet below the sill of the head sluice to the Mysore Feeder Channel with suitable driving head to enable a draw off

of not more than 25 (twenty-five) cusecs of water required for irrigating lands under Sirangala anicut.

The Mysore Government shall meet the cost of construction of the regulator at the right flank of the anicut and the excavation of the leading channel from the said regulator to the halla below the anicut.

And the Mysore Government shall bear the cost of maintaining the said regulator and the said leading channel in proper condition during the period of this agreement and any extension thereof with or without modifications.

And the control of the said regulator at the right flank of the anicut shall vest in the Coorg Administration.

7. The Mysore Government shall not allow irrigation directly from the Mysore Feeder Channel

8. The Mysore Government shall furnish to Coorg Administration copies of sanctioned plans with all hydraulic particulars, etc., of the entire scheme before the Mysore Government take up the contruction of the said new anicut.

9. The Agreement shall be in force for a period of three years at the end of which period this agreement may be renewed with or without modification.

IN WITNESS WHEREOF the parties hereunto have set their hand and seal in the presence of witnesses this the ..... day of ..... 1948.

(Sd.) V. VEDAVYASACHARYA,
Chief Secretary to the Government of His Highness the Maharaja of Mysore.

Witnesses:

(1) (Sd.) B. S. NARASINGA RAO,
Secretary to Government, Public Works Department.

(2) (Sd.) H. PUTTASWAMY,
Assistant Secretary,
Public Works Department.

(Sd.) C. S. UTTAPPA,
Ex-Officio Secretary to the
Chief Commissioner of Coorg.

Witnesses:

(1) (Sd.) C. A. AIYANNA.
(2) (Sd.) H. S. VENKATASUBBAYYA.

(10) LAKSHMANATHIRTHA PROJECT, COORG-SIMLA CONFERENCE (1950).

Minutes of the meeting held in C. B. I. Office, Simla, on the 18th June 1950 at 10.00 hrs. in connection with Lakshmanathirtha Project in Coorg.

The following were present:

1. Sardar Man Singh, I.S.E., Member, C.W.I.N.C. *Chairman.*
2. Shri M. N. Lakshmana Rao, Chief Engineer, Mysore.
3. Shri M. D. Narasimhachari, Deputy Chief Engineer, Madras.
4. Shri N. S. Govinda Rao, Mysore.
5. Shri G. R. Garg, Director (I), C.W.I.N.C. (Coorg).
6. Shri P. R. Ahuja, A.C.E., C.W.I.N.C.

The agenda was gone through *ad seritem* and after a good deal of discussion the decisions of the Conference of May 1949 were modified to some extent and the following conclusions were reached unanimously:

1. Coorg may be allowed to make use of the required quantity of 35 cusecs of water during the months of September to November for irrigating the commandable area subject to condition in conclusion 2.

2. As the water available in the river during the period September to November is scanty and hardly

sufficient for the requirements of the existing irrigation in Mysore, it is necessary that the anicut scheme should be dropped and substituted by a storage scheme. Water should be impounded only during the monsoon months of July and August by construction of a small dam for which suitable sites are said to be available. The total quantity of water to be stored in the reservoir should be about 270 million cubic feet but not more than 300 million cubic feet. The draw off during the months of September to November would then be restricted to this storage leaving the normal river flow untapped.

3. The cost of project as before should be borne by Coorg and if necessary by the Central Government. This is a small scheme likely to yield quick results and should, therefore, be subsidised by the " Grow More Food " funds as is being done in the case of similar small schemes in Madras, Mysore and other States.

4. The loss of water on account of this storage being utilised in Coorg will be shared equally by Madras and Mysore. The details as to how this should be effected and the conditions of impounding in Coorg will be worked out, discussed and decided later. Madras and Mysore will work out these details on the basis of computing the impounding limits taking into account the discharges impounded in Coorg. This should be done by the end of September 1950 but not later than the end of December 1950, by which time the construction will have to be started in order to enable the necessary subsidy being claimed under Grow More Food Campaign. The Central Water Power, Irrigation and Navigation Commission will arrange for the next meeting to discuss and finalise these details towards the end of September 1950, but not later than the end of December 1950.

(Sd.) MAN SINGH,
Member, Water Ways, Irrigation and Navigation.

(Sd.) M. N. LAKSHMANA RAO,
Chief Engineer, Mysore.

(Sd.) M. D. NARASIMHACHARI,
Deputy Chief Engineer, Madras.

(Sd.) G. R. GARG,
Director (I), C.W.I.N.C., Coorg.

No. PC(V) 95/51.

II

GOVERNMENT OF INDIA—PLANNING COMMISSION.

(11) Utilisation of Krishna and Godavari Waters.

1951—*Delhi Awards.*

PLANNING COMMISSION.

A Conference was held in the Planning Commission, New Delhi, on the 27th and 28th July 1951, with representatives of Bombay, Madras, Hyderabad, Madhya Pradesh and Mysore Governments to discuss the utilisation of supplies in the Krishna and Godavari river basins so that an assessment could be made of the relative merits of the projects proposed for inclusion in the second part of the Five-Year Plan. The following papers relate to it:—

(i) Notes by the Central Water and Power Commission, Ministry of Natural Resources and Scientific Research, on the utilisation of supplies in the Godavari river basin and in the Krishna valley.

(ii) Summary record of discussions at the Inter-State Conference held in the Planning Commission on the 27th and 28th July 1951.

(iii) Memorandum of Agreement agreed to by the Conference.

(iv) Copies of replies received from the State Governments ratifying the agreement.

NOTES BY THE CENTRAL WATER AND POWER COMMISSION ON THE UTILISATION OF SUPPLIES IN GODAVARI RIVER BASIN.

Average annual run-off and dependable yield.

The river Godavari has been regularly gauged at Dowlaishwaram Anicut in Madras Delta. Statement attached gives actual run-off from 1881 to 1946, *i.e.*, for

a period of 66 years. Average annual run-off comes to 3,433 T.M.Cft. But this figure was actually exceeded only in 35 years out of 66, and hence cannot be taken as dependable. Run-off of 3,000 T.M.Cft taken by Madras is available in 45 years, that of 2,500 and 2,250 T.M.Cft. in 56 years and 59 years respectively. For 4 years out of 66 years, supply falls below 1,000 T.M.Cft. As " carry over " is not possible in this basin except at a very high cost, dependable supply available may be taken as 2,250 T.M.Cft. This is in addition to the present actual utilisation which is of the order of 500 T.M.Cft. This gives total dependable supply of 2,750 T.M.Cft.

Projects already under operation.

		T.M.Cft.
Bombay ..	Godavari canals Parwara Canals Minor Works	50.00
Hyderabad ..	Nizamsagar dam Munair dam Minor Works	153.1
Madras ..	Delta irrigation	300.0
	Total ..	503.1
	or say	503

Projects under construction.

		T.M.Cft.
Bombay ..	Gangapur canal near Nasik ..	7.0
Hyderabad ..	Godavari North canal	53.0
	Bendusura Project	1.0
	Total ..	61.6
	or say	62

Projects under investigation or contemplation.

Bombay ..	(Assumed)	10
Hyderabad ..	Purna dam on Purna river	36
	Devanur dam on Manjira river ..	27
	Upper Godavari dam at Kushtapuram	227*
	Penganga dam	53
	Lower Munair dam	32
	Prahitta dam	32
	Lower Godavari dam at Inchanpally ..	32
	Medium and minor projects	60
	Minor works	18
	Total ..	527
Madras ..	Ramapada Sagar Dam	1,035

* (280.53 Godavari North Canal).

Sabari (115 T.M.Cft.) not taken into account as it will not be necessary if Ramapada Sagar dam materialises. Total 10+517+480+1,035=2,042 T.M.Cft.

Total utilisation of supplies in this river basin for projects both in operation and proposed, therefore, is of the order of (503+62+2,042)=2,607 or say 2,600 T.M.Cft. against 2,750 T.M.Cft. available. The supplies available are, therefore, just sufficient to meet the total requirements of all the projects which can be foreseen at present.

Next to be considered is whether supplies are available at the sites proposed. Unfortunately no discharge observations are available for any site above Dowlaiswaram in Madras. It is, however, evident that ample supplies are available for Bombay, Madhya Pradesh and Madras projects. As regards Hyderabad, that State has given some calculations for the various sites which show that water will be available. The only site where there is likely to be some difficulty is Kushtapuram on the Godavari but here also supplies appear to be just sufficient.

Financial aspects of the proposed projects.

The only projects which seem to have been surveyed in detail are Purna, Devnoor, Godavari and Penganga in Hyderabad and Ramapada Sagar in Madras. The Hyderabad projects are also shown to be productive. But as detailed estimates have not been made available, no check has been possible.

As regards Ramapada Sagar project in Madras, it is unproductive. But the Madras Government proposes to levy annual betterment fee in the form of acreage rate on the land to be benefited just sufficient to make up the loss.

A statement of actual annual run off of river Godavari at Dowlaishwaram, Madras.

Year	*T.M.Cft.*	*Run-off*	*M. Acre feet*
1881	.. 3,404.806	..	73.2
1882	.. 3,700	..	85
1883	.. 5,580	..	128
1884	.. 5,171	..	119
1885	.. 4,412	..	101.5

Year	*T.M.Cft.*	*Run-off*	*M. Acre feet*
1886	4,221	..	97
1887	5,274	..	121
1888	2,554	..	87.7
1889	2,459	..	87.2
1890	4,731	..	118.7
1891	4,076	..	93.8
1892	4,271	..	98.2
1893	5,794	..	133
1894	4,295	..	98.7
1895	3,203	..	73.6
1896	3,393	..	78.0
1897	3,425	..	79.0
1898	2,880	..	66.2
1899	459	..	10.5
1900	3,425	..	78.8
1901	2,309	..	53.0
1902	1,480	..	34
1903	4,003	..	93.5
1904	1,893	..	43.5
1905	2,254	..	51.8
1906	3,068	..	70.5
1907	5,359	..	135
1908	3,955	..	91
1909	2,371	..	54.5
1910	4,425	..	101.5
1911	2,190	..	57.3
1912	2,955	..	68
1913	2,663	..	61.3
1914	5,298	..	121.5
1915	3,771	..	86.7
1916	4,432	..	102.0
1917	5,441	..	125.0
1918	*2,736	..	62.9
1919	3,938	..	90.5
1920	958	..	22.0
1921	3,077	..	70.7
1922	2,954	..	68
1923	2,515	..	58.5
1924	2,484	..	57.2
1925	3,282	..	74.6
1926	..	..	..
1927	3,700	..	85.1
1928	3,243	..	74.6
1929	2,943	..	67.7
1930	286	..	6.6
1931	4,778	..	110.0
1932	3,775	..	86.7
1933	4,745	..	109
1934	4,647	..	107
1935	3,535	..	81.5
1936	4,158	..	95.7
1937	400	..	9.2

Year	*T.M.Cft.*	*Run-off*	*M. Acre feet*
1938	4,853	..	112
1939	2,459	..	56.5
1940	4,181	..	96.2
1941	1,422	..	32.7
1942	4,228	..	97.8
1943	3802	..	87.5
1944	4,279	..	98.5
1945	4,220	..	97.1
1946	3,599	..	82.7

Statement by projects of the quantum of proposed utilisation, power, installed and proposed irrigation.

Name of project	*Total demand T.M.Cft.*	*Proposed irrigation in acres.*	*Proposed power installed K.W.*
BOMBAY			
Godavari canals, Minor works, Parawara canals	50	Not known	Not known
Gangapur canal	7	50,000	..
Future minor projects	10	50,000	..
HYDERABAD			
Nizam Sagar dam	58.0	2,75,000	..
Munair dam	3.4	17,250	..
Minor works	91.7	4,53,963	..
Godavari North Canal	53.0	2,27,000	..
Bendsura project	1.6	8,200	..
Purna	36.0	1,50,000	16,000
Devnoor	27.0	50,000	40,000
Godavari	227.0	9,33,000	1,75,000
Penganga	53.0	1,50,000	40,000
Lower Munair	32.0	1,00,000	..
Pranbitta	32.0	1,00,000	..
Minor and medium projects and works	78.0	2,94,000	..
Lower Godavari	32.0	1,00,000	1,50,000
MADHYA PRADESH			
Wainganga North of Khapa	12.0	50,000	1,800
Penganga at Amti	75.0	3,00,000	13,400
Wardha	19.0	75,000	4,370
Indravati—			
Chitarkoti			27,000
Barsur	20.0	80,000	32,500
Bhopal Patnam			87,680

Name of project	*Total demand T.M.Cft.*	*Proposed irrigation in acres.*	*Proposed power installed K.W.*
Sabri at Guma	.. 172.0	6,90,000	11,400
Absorption losses, etc.	.. 22.0	..	..
Wainganga Reservoir Project ..	.. 160.0	10,00,000	6,20,000
MADRAS			
Dowlaiswaram anicut	.. 300.0	12,50,000	..
Rampada Sagara dam	.. 300.00	27,46,000	1,50,000

NOTES BY THE CENTRAL WATER AND POWER COMMISSION ON THE UTILISATION OF SUPPLIES IN THE KRISHNA VALLEY.

Average annual run-off and dependable yield.

Discharge observations of the river Krishna are available for Bezwada site in Madras for the year 1895 to 1945, *i.e.*, for 51 years. Actual yearly run-off are given in Statement A. The mean annual run-off comes to 1,957 T.M.Cft. This, however, is available in 21 years only out of 54 years and hence cannot be taken as dependable in 30 years, 37 years and 44 years, respectively. Hence dependable supplies at Bezwada excluding present utilisation above may be taken as 1,450 T.M.Cft. This tallies with the figure worked out by Hyderabad. The Madras figure of 2,000 is too high.

The existing utilisation of supplies above Bezwada is 120 in Bombay, 90 in Hyderabad, 30 in Mysore and 10 in Madras, making a total of 250. Hence total dependable supply in the river basin may be taken as 1,700 T.M.Cft.

Existing Utilisation.

	T.M.Cft.
BOMBAY—	
All minor works	120
HYDERABAD—	
Minor works	90
MYSORE—	
Vanivilas Sagar	30

Existing Utilisations.

MADRAS—	T.M.Cft.
K. C. Canal	10
Bezwada Anicut	200
Total A. ..	450

Projects under construction.

BOMBAY—	T.M.Cft.
Ghataprabha left bank canal ..	15
Mulchir weir	8
Radha Nagari	11.3
Other minor works	21.7
Total ..	56.0
HYDERABAD—	
Tungabhadra	65
Rajolibanda	17
Minor works	8
	90
MYSORE—	
Bhadra Reservoir	57
Tunga Anicut	11.5
	68.5
MADRAS—	
Tungabhadra	65.0
Grand Total	279.5
or say	280.0

Water available for future projects.

Total of A and B above =450+280 = 730 T.M.Cft. This leaves 1,700—730=970 T.M.Cft. only for future schemes.

Projects under investigation or contemplation.

BOMBAY—	T.M.Cft.
Koyna Irrigation and Hydro-Electric	
(First Stage)	127
(Second Stage)	46
Ghataprabha Valley	70

	T.M.Cft.
New Khadakvasla dam	33
Kakadi Irrigation Project	28
Asoga Reservoir	25
Vir Dam	14
Bhima storage	12
Other projects	25
Total ..	380
HYDERABAD—	
Upper Krishna	165
Bhima	80
Lower Krishna	240
Medium and minor projects ..	65
Extension of irrigation on Tungabhadra	35
Total	585
MYSORE—	
Bhadra Anicut	5.0
Vedavathi	1.0
Other works	19.5
Total ..	25.5
MADRAS—	
Krishna Pennar Project	825.0
Pulichintala Project	100.0
Tungabhadra High Level Canal ..	25.0
Total ..	950.0
Grand Total	1,940.0

Hence the total demand on the waters of the Krishna considering projects proposed or under construction is 1,940.5 T.M.Cft. as against 970 T.M.Cft., the water potential remaining after catering to the demands by works already under operation and construction. The future demand is thus twice the availability of water in the basin.

A statement "B" showing quantum of proposed utilisation, power installed and proposed irrigation with capital costs, etc., is attached.

STATEMENT 'A'.

Statement showing annual runoff of Krishna at Bezwada anicut excluding existing utilisation.

Year	*T.M.Cft.*	*M. Acre Feet*
1894-95	1,809	41.60
1895-96	2,085	47.95
1896-97	2,320	53.36
1897-98	2,481	57.06
1898-99	2,271	52.22
1899-1900	834	19.64
1900-01	2,577	59.24
1901-02	1,822	49.90
1902-03	1,732	39.83
1903-04	2,952	67.89
1904-05	1,456	33.53
1905-06	1,131	26.01
1906-07	1,643	37.78
1907-08	1,911	43.95
1908-09	2,293	52.73
1909-10	1,746	40.05
1910-11	2,171	49.93
1911-12	1,135	26.10
1912-13	1,907	43.86
1913-14	1,445	33.23
1914-15	2,750	63.25
1915-16	2,250	51.75
1916-17	3,487	80.20
1917-18	2,569	60.08
1918-19	808	19.84
1919-20	1,857	42.71
1920-21	1,372	31.55
1921-22	1,784	41.03
1922-23	1,730	39.79
1923-24	2,043	46.98
1924-25	1,936	44.52
1925-26	1,819	41.83
1926-27	1,953	44.91
1927-28	2,054	47.24
1928-29	1,901	43.73
1929-30	1,627	37.42
1930-31	1,927	44.22
1931-32	2,508	57.68
1932-33	2,472	56.85
1933-34	2,524	58.05
1934-35	1,794	41.26
1935-36	1,600	36.80
1936-37	1,652	37.92
1937-38	3,336	76.58
1938-39	2,169	49.76
1939-40	1,718	39.32

Year	*T.M.Cft.*	*M. Acre Feet*
1940-41	1,903	43.69
1941-42	1,310	30.13
1942-43	1,610	37.03
1943-44	1,700	39.10
1944-45	2,000	46.00
51 Years Average ..	1,957 Average	45.01

STATEMENT 'B'.

KRISHNA BASIN PROJECTS.

Statement showing quantum of proposed utilisation, power installed, proposed irrigation and cost.

Name of the Project	Total demand T.M. Cft.	Proposed irrigation (in acres)	Proposed power to be installed	Cost in lakhs	Return per cent
BOMBAY					
Koyna Hydro-Electric and Irrigation Project ..	173	4,40,000	6,00,000	9,273	..
OTHER PROJECTS					
Ghataprabha Valley ..	70	6,00,000	..	2,455	1.5
New Khadakvasla Dam	33	1,40,000	..	750	4.5
Kakadi Irrigation Project ..	28	1,30,000	..	600	4.2
Asoga Reservoir	25	74,200	..	472	5.0
Other projects ..	42	2,34,350	..	1,322	..
Other I Class Works ..	9	..	..	..	..
	207	11,78,550	6,00,000	5,599	..
HYDERABAD					
Upper Krishna..	165	7,34,000	80,000	3,800	6.08
Bhima ..	80	2,74,000	..	1,200	4.50
Lower Krishna..	240	9,00,000	80,000	4,800	5.90
Medium and Minor Projects	65	2,50,000	..	..	..
	550	21,58,000	1,60,000	9,800	..

Name of the Project	Total demand T. M. Cft.	Proposed irrigation (in acres)	Proposed power to be installed	Cost in lakhs	Return per cent
MYSORE					
Bhadra Anicut ..	5			..	..
Vedavathi ..	1	Figures not given		..	..
Other works ..	19.5				
	25.5				
MADRAS					
Krishna-Pennar Project ..	825	30,00,000 (I Crop) 12,00,000 (II Crop)	2,50,000	15,750	4.5
OTHER PROJECTS					
Pulichintala ..	100	6,00,000			
Tungabhadra High Level Canal ..	25				
	125				

SUMMARY RECORD OF DISCUSSIONS AT THE INTER-STATE CONFERENCE ON THE UTILISATION OF KRISHNA AND GODAVARI WATERS HELD IN THE COMMITTEE ROOM OF THE PLANNING COMMISSION, NEW DELHI, ON 27TH AND 28TH JULY 1951.

Planning Commission.

Shri V. T. Krishnamachari, Member-Chairman.

Shri G. R. Garg, Chief of Natural Resources Division.

Shri K. S. S. Murthy, Assistant Executive Engineer, Natural Resources Division.

Hon'ble Shri N. V. Gadgil, Minister for Works, Production and Supply, attended by invitation.

Bombay—

Hon'ble Dr. Jivraj Mehta, Minister, P.W.D.

Hon'ble Shri Naik Nimbalkar, Development Minister.

Shri G. V. Bendekar, I.C.S., Secretary, P.W.D.

Shri Mirchandani, Chief Engineer, Electricity.

Shri Champhekar, I.S.E., Chief Engineer, Irrigation.

Madras—

Hon'ble Shri M. Bhakthavatsalam, Minister, P.W.D.

Shri T. M. S. Mani, I.C.S., Secretary, P.W.D.

Shri A. R. Venkatacharya, I.S.E., Chief Engineer, Irrigation.

Shri N. Padmanabha Iyer, I.S.E., Superintending Engineer.

Shri M. D. Narasimhachari, Deputy Chief Engineer.

Hyderabad—

Hon'ble Shri M. K. Vellodi, Chief Minister.

Hon'ble Nawab Zain Yar Jung, Minister, P.W.D.

Shri Papaiah, Chief Engineer.

Mr. Jaffar Ali, Superintending Engineer.

Madhya Pradesh—

Hon'ble Shri R. Agnibhoj, Minister, P.W.D.

Mysore—

Hon'ble K. C. Reddy, Chief Minister (attended on 27th only).

Central Water and Power Commission—

Shri A. N. Khosla, Chairman.

Shri Gadkary, Member.

Shri Dr. K. L. Rao, Director.

Shri C. S. Parthasarathy, Assistant Engineer.

Opening the discussion Shri V. T. Krishnamachari stated the broad principles on which schemes for irrigation and power development should be selected for inclusion in the Plan. He mentioned that only projects which had been thoroughly investigated and found technically, economically and financially justifiable, should be included in our Five Year Plan.

The object of the Conference was to discuss the utilisation of supplies in the Krishna and Godavari river basins so that an assessment could be made of the relative merits of projects proposed for inclusion in the second part of the Five Year Plan. He referred to the

technical paper already circulated showing the supplies available in these rivers. In considering the issues placed before the meeting, two points of view should be reconciled. The first was the need for an All-India point of view for increasing available food supplies within the shortest possible time and on the most economic basis. The Irrigation Commission reporting over 50 years ago emphasised the need regarding irrigation development as a National-All-India question. This was even more important now than it was in the past. India's food problem can be solved only on such a basis. The shortage of power in the Bombay City and surrounding areas should also be regarded as an urgent problem. On the other hand, regional development was important, especially the development of backward regions, and could not be ignored. He was confident that an agreement could be reached reconciling these two considerations in a practical manner which would be equitable to all areas concerned.

2. Shri G. R. Garg, Chief of Natural Resources Division, then gave a brief review of the existing utilisation of supplies in these river basins and the contemplated utilisation based on the technical note circulated by the Planning Commission.

Shri Venkatacharya, Chief Engineer, Madras, stated that the discharge figures of Krishna river, which had been worked out in the note, were under-estimated by about 8 per cent. Shri Champhekar, Chief Engineer, Bombay, stated that the regeneration supplies in the river basin had not been taken into account. He thought that nearly 25 per cent to 40 per cent of the waters would perhaps be available as regeneration supplies. These points were noted.

3. Hon'ble Shri N. V. Gadgil drew attention to the extremely backward condition of certain districts of Bombay State, Poona, Sholapur, Bijapur, etc. He specially stressed the needs of the Karnatak areas. The development of these regions depended on the availability of power and irrigation and should have high priority. Their needs should be provided for.

Shri M. K. Vellodi, Chief Minister of Hyderabad, desired that certain broad principles of priority should be laid down by the Conference, so that details could be worked out later on.

4. Shri V. T. Krishnamachari mentioned that apart from power supply projects in the Plan to meet existing deficits, irrigation had been given priority over power projects. The Planning Commission, in their draft Five Year Plan, have suggested a Committee for selecting projects for inclusion in the second part of the Plan and set out the principles which should regulate the inclusion of projects in the Plan. No doubt, certain States had some initial advantages—trained staff and long experience of irrigation works—but the interests of other regions could not be neglected.

Hon'ble Shri K. C. Reddy, Chief Minister of Mysore, stated that so far as the Krishna river basin was concerned, Mysore had certain agreement with Madras and Hyderabad and the new agreement that might be arrived at should take note of the existing agreement.

5. Shri Rameshwar Agnibhoj referred to the Wainganga project of Madhya Pradesh. It was suggested to him that his Government should request the Central Water and Power Commission to complete the investigations so that negotiations might be undertaken with the adjoining States for utilising the power proposed to be generated.

6. Shri T. M. S. Mani of Madras suggested that the waters of the river basins should be distributed to the various States on a percentage basis so that every one would be affected equally in good or bad year.

7. Thereupon the Conference adjourned to enable the Engineers to arrive at an agreement about the waters of Krishna.

8. The Conference re-assembled at 4 P.M. The Engineers reported a tentative agreement regarding the waters of the Krishna. Hon'ble Shri N. V. Gadgil suggested that the percentage adopted by the Engineers for Bombay should be increased. After discussion, it was agreed that in the case of the Krishna waters, a different set of proportions should be ensured for discharges above 1,000 T.M. Cft.

Saturday the 28th July 1951.

9. The Engineers met at 10 A.M. to discuss the distribution of waters in the Godavari basin and arrived at a tentative set of proportions.

10. The Conference assembled at 11-30 A.M. It considered proposals made by the Engineers regarding the Godavari. The Engineers were requested to prepare a memorandum of agreement and the Conference adjourned till 3-30 P.M.

11. The Conference re-assembled at 3-30 P.M. and proceeded to consider the draft memorandum sentence by sentence. As regards Section I, Hon'ble Shri N. V. Gadgil stated that the proportions for the Krishna waters worked out on the previous day were not equitable as they would prejudice the development of the economically backward areas he mentioned and these areas were entitled to a larger share. After some discussion in which the representatives of Madras, Hyderabad and Bombay took part, the Conference agreed to a modification of the proportions of distribution for the Krishna waters—Bombay's share being increased by 4 per cent, 2 per cent being surrendered by Hyderabad and 2 per cent by Madras.

12. The basis of distribution for the Krishna and Godavari waters agreed to at the Conference is shown in the annexed memorandum of agreement as finally agreed to by the Conference.

MEMORANDUM OF AGREEMENT.

I—Krishna River.

The dependable annual flow in the Krishna basin based on the recorded gaugings at Vijayawada is accepted as 1,715 T.M.Cft. This figure may have to be increased to allow for any omissions in respect of existing utilisation in any States.

Shri Venkatachari's statement that the actual flow will be in excess of the recorded gauged flow by 8 per cent is noted.

2. The existing utilisation (subject to corrections mentioned in para 1) plus flows required for projects under construction in the concerned States, as stated below, are hereby allocated to the respective States :—

		T.M.Cft.
Bombay	.. ..	176
Hyderabad	.. ..	180
Mysore	.. ..	98.5
Madras	.. ..	290
	Total ..	744.5

3. The balance of flow for new projects, after meeting the above allocations works out to 970.5 T.M.Cft. For purposes of allocation, this has been taken as 1,000 T.M.Cft. For this balance up to 1,000 T.M.Cft., the allocations are made as hereunder :—

	Per Cent.	*T.M.Cft.*
Bombay ..	.. 24	240
Hyderabad ..	.. 28	280
Mysore ..	.. 1	10 (Provisional)
Madras ..	.. 47	470

For balance flow in excess of 1,000 T.M.Cft. mentioned above, the allocations will be as follows :—

Bombay ..	.. 30	per cent
Hyderabad ..	.. 30	„
Mysore ..	.. 1	„ (Provisional)
Madras ..	.. 39	„

The allocation to Mysore may have to be slightly adjusted to the extent of additional 1 per cent as a result of further engineering scrutiny. This addition will come out of the share of Madras.

4. The above allocations are subject to the condition that the diversion of supplies across the Western Ghats for the Koyna Project will be limited to 67.5 T.M.Cft.

II. Godavari.

The dependable annual flow in the Godavari basin based on the recorded gaugings at Dowlaishwaram is taken as 2,500 T.M.Cft.

2. The existing utilisation plus supplies required for projects under construction in the concerned States as stated below are hereby allocated to the respective States :—

Bombay	.. 57	T.M.Cft.
Hyderabad	.. 208	„
Madhya Pradesh	.. 30	„
Madras	.. 300	„

3. Of the balance flow of 1,905 T.M.Cft. (say 1,900) which remains available after meeting the allocations in para 2, the allocations to the various States will be as below :—

	Per Cent.	*T.M.Cft.*
Bombay	.. 3	57
Hyderabad	.. 26	494
Madhya Pradesh	.. 24	456
Madras	.. 47	893

These percentages will apply whether the supplies are in excess or short of the dependable flow assumed above.

III. General.

The allocations in the case of the Krishna and the Godavari have been made on an annual basis. The new utilisations have to be so adjusted as not to interfere with the existing daily utilisation for existing works and agreed utilisation for new works.

2. The use of water passed by one State for her use downstream, out of the share allocated to her and passing through the reservoir of another State may be used by the latter State, solely for power purposes, provided that such quantities are not impounded in their passage through the reservoir for more than the period agreed upon between the Governments concerned, which agreement shall not be unreasonably withheld.

3. The allocations made under parts I and II shall be reviewed after 25 years.

4. No major project shall be undertaken for construction by any State unless it has been fully investigated and necessary detailed estimates have been prepared and duly examined.

REPLIES RECEIVED FROM STATE GOVERNMENTS.

Copy of letter No. MS. 3433, dated the 17th August 1951 from the Secretary to the Government of Madras, Public Works Department, to the Secretary, Planning Commission, New Delhi.

Subject:—Utilisation of the supplies in Krishna and Godavari river basins by the State Governments—Conclusions arrived at the Conference convened by the Planning Commission—ratification.

With reference to your letter No. PC(V) 95/51, dated 31st July 1951, I am directed to state that the Madras Government ratify the agreement arrived at on the above subject at the Conference held at New Delhi on 27th and 28th July 1951, a copy of which was forwarded with your letter cited.

Copy of letter No. C.M.N. 1051-J, dated 30th August 1951 from the Deputy Secretary to the Government of Bombay, Public Works Department, to the Deputy Secretary, Planning Commission, New Delhi.

Subject:—Utilisation of supplies in the Krishna and Godavari river basins.

With reference to your letter No. PC(V) 95/51, dated the 31st July 1951, forwarding (a) a summary record of discussions at the Inter-State Conference held in the Planning Commission, New Delhi, on the 27th and 28th July 1951 on the above subject and (b) a copy of the agreement reached at the Conference regarding the allocation of the supplies in the Krishna and Godavari river basins, I am directed to convey the ratification of the agreement by this Government as required therein.

Copy of letter No. GVA—16/GV/51-3148, dated 23rd August 1951 from the Secretary to the Government of Hyderabad, Public Works Department, to the Deputy Secretary, Planning Commission, New Delhi.

Subject:—Utilisation of supplies in the Krishna and Godavari river basins—Ratification of agreement.

Reference:—Your letter No. PC(V) 95/51, dated the 31st July 1951.

With reference to the above communication, I am directed to inform you that the Government of Hydera-

bad hereby ratifies the agreement arrived at in the Inter-State Conference held at Delhi on the 27th and 28th of July 1951.

Copy of letter No. 429-F/W. 251, dated 8th September 1951 from the Secretary to the Government of Madhya Pradesh, P.W.D., Nagpur, to the Secretary, Planning Commission, New Delhi.

Subject:—Utilisation of supplies in the Krishna and Godavari river basins.

With reference to your letter No. PC(V) 95/51, dated 31st July 1951, I am directed to state that the State Governmen ratify the agreement arrived at the Inter-State Conference on the utilisation of supplies in the Godavari and Krishna river basins, held on the 27th and 28th July 1951.

(12) BHAIRAVANTHIPPA PROJECT AND NARANAPUR ANICUT

Extract from the summary of the results of discussions arrived at the Conference of official representatives of the Governments of Andhra and Mysore which was held on 15th July 1954 and 16th July 1954 at Bangalore.

SUBJECT 6.—*Execution of Bhairavanthippa Project, Ananthapur District, with which is linked Naranapur Project of Chitradurga District.*

With reference to the previous correspondence and the discussions at the two day Conference, it was agreed as follows:—

(1) With regard to the Naranapur anicut now located at Sidlianakote, that the new ayacut will be limited to an area of 2,210 acres. Mysore will furnish Andhra with full particulars of the existing ayacut of the tanks below the anicut channels.

(2) With regard to the Bhairavanthippa project—(*a*) The existing rights to irrigation by lift, of lands along the river margin above the proposed reservoir F.R.L. and up to the anicut referred to at (1) above should be preserved. Mysore will furnish Andhra with all particulars

of such existing irrigation. Mysore, however, will be at liberty to extend such lift irrigation to a maximum extent of 50 per cent over the existing area. Similar information for lift irrigation if any, below the proposed Bhairavanthippa project reservoir up to Rayadrug-Bellary border will be furnished to Mysore by Andhra. The Andhra State will be at liberty to extend such lift irrigation up to a maximum of 50 per cent over the existing area.

(b) In view of the submersion of garden lands estimated at about 191 acres (one hundred and ninety-one acres), Mysore ryots will be permitted, as a matter of concession, to irrigate by lift from the reservoir up to a maximum extent of 200 acres.

(*c*) The loss of land revenue to Mysore State arising out of the acquisition of lands in Mysore for the Bhairavanthippa project will be commuted into a lumpsum payment, and paid to Mysore by Andhra.

(*d*) The estimated cost of anti-malarial operations, in the Mysore State arising out of the construction of the reservoir will be commuted to a lumpsum amount and paid by Andhra.

(e) With regard to rehabilitation of villagers, arising out of the construction of the reservoir, the following measures will be taken at the cost of the Andhra Government:—

(i) Acquisition of house sites and allotment thereof to people whose houses have been acquired on payment of the actual cost of the acquisition.

Note.—The Mysore Government Representatives urge that house sites should be assigned free of cost as is done in Mysore State.

(ii) Reasonable transport facilities for transferring household effects of the displaced persons to the village newly formed.

(iii) Provision of common amenities such as a well, a school, a place of worship and streets necessary for the layout of the village in the villages newly formed, and

(iv) If Government land is available in the commanded area, payment of compensation for the

land acquired may be in the form of land equal in extent to the land acquired, if the persons affected are willing.

(*f*) Andhra will furnish Mysore full particulars of the existing ayacut of the tanks below the Bhairavanthuppa reservoir channels.

3. Necessary agreements will be executed after ratification of the terms by the two Governments.

* * * * * *

Statement of conclusions reached on Bhairavanthippa project (1948).

1. That Mysore and Madras agree that the Narayanapur Anicut of Mysore and Bhairavanthippa reservoir of Madras as given in Annexure "A" Parts I and II to this agreement may be sanctioned and started simultaneously.

2. That Mysore shall acquire at the cost of Madras Government and hand over to Madras Government for the proposed Madras Scheme, approximately an area of 1,670 acres of private land (and 700 acres of river bed peramboke) situated in Mysore limits, now considered liable to submersion at the F.R.L. of the new reservoir. (These areas are liable to modification on detailed levels being taken).

3. That the F.S.L. discharge drawn through the Narayanapur channel shall not exceed a F.S.L. discharge of 60 cusecs for the irrigation of 2,200 acres and all supplies in excess of this discharge shall be passed down the river, until the total exceeds 250 cusecs after which Mysore may draw a larger quantity than 50 cusecs.

4. Details of regulation and daily water reports of quantities drawn in cusecs at the new Narayanapur anicut in a form with particulars jointly agreed to by the Chief Engineers of the two Governments shall be sent by Mysore every day to the Chief Engineer for Irrigation, Madras, and to such other officers as may be specified.

(Modifications in constructive details of works mentioned in Clause (1) will be intimated by the party making the modifications to the other party).

ANNEXURE "A"—PART I.

Mysore Scheme—Narayanapur Project in Chellakere Taluk, Chitradurga District.

It is proposed to construct a masonry anicut across the Vadavathi near Narayanapur. The anicut will be 650 feet in length with a top width of 6 feet, bottom width 14 feet and average height of 20 feet. The crest of the anicut will be at 1,804.50 and the maximum flood of 51,680 cusecs will discharge with a depth of 9 feet over the crest. A water cushion with floor at 1794.50 and 1784.50 respectively with the length are proposed to be provided. Two scouring sluices of 3 feet and 4 feet are proposed at each end with cills at 1798.00. The head works will be at right angles to the body of the anicut. It is proposed to open a right bank channel with 4 vents of $2\frac{1}{2}$ feet $\times$ $2\frac{1}{2}$ feet with their cills at 1801.00 on the right bank. The channel will be $14\frac{1}{2}$ miles long with a bed width of 16 feet and depth of 9 feet. It is designed to irrigate 2,200 acres at 45 pipe duty. The project is to utilise seepage water and the scheme is ancillary to Vanivilas Sagar project.

ANNEXURE "A"—PART II.

Madras Scheme—Bhairavanthippa Project.

1.	Capacity of the reservoir ..	1,500 M.Cft. (Effective).
2.	Area to be irrigated ..	About 10,000 acres consisting of new irrigation and a portion of old irrigation.
3.	Area to be submerged in Mysore limits due to the formation of Madras Reservoir at the F.R.L. of new reservoir.	1,670 acres of land and about 700 acres of river bed peramboke in Mysore limits.

(Sd.) B. S. NARASINGA RAO,
10th November 1948
Mysore Chief Engineer.

(Sd.) A. R. VENKATACHARI,
10th November 1948.
Madras Chief Engineer.

(13)

THE INTER-STATE WATER DISPUTES ACT, 1956.

No. 33 of 1956.

28th August, 1956.

AN Act to provide for the adjudication of disputes relating to waters of Inter-State Rivers and river valleys.

BE it enacted by Parliament in the Seventh Year of the Republic of India as follows:—

1. *Short title and extent.*—(1) This act may be called the Inter-State Water Disputes Act, 1956.

(2) It extends to the whole of India.

2. *Definitions.*—In this act, unless the context otherwise requires—

(*a*) "Prescribed" means prescribed by rules made under this Act;

(*b*) "Tribunal" means a Water Disputes Tribunal constituted under Section 4;

(*c*) "Water dispute" means any dispute or difference between two or more State Governments with respect to—

(i) the use, distribution or control of the waters of, or in, any inter-State river or river valley; or

(ii) the interpretation of the terms of any agreement relating to the use, distribution or control of such waters or the implementation of such agreement; or

(iii) the levy of any water rate in contravention of the prohibition contained in Section 7.

3. *Complaints by State Governments as to water disputes.*—If it appears to the Government of any State that a water dispute with the Government of another State has arisen or is likely to arise by reason of the fact that the interests of the State, or of any of the inhabitants

thereof, in the waters of an Inter-State river or river valley have been or are likely to be, affected prejudically by—

(*a*) any executive action or legislation taken or passed, or proposed to be taken or passed, by the other State ; or

(*b*) the failure of the other State or any authority therein to exercise any of their powers with respect to the use, distribution or control of such waters ; or

(*c*) the failure of the other State to implement the terms of any agreement relating to the use, distribution or control of such waters,

the State Government may, in such form and manner as may be prescribed, request the Central Government to refer the water dispute to a Tribunal for adjudication.

4. *Constitution of Tribunal.*—(1) When any request under Section 3 is received from any State Government in respect of any water dispute and the Central Government is of opinion that the water dispute cannot be settled by negotiations, the Central Government shall, by notification in the Official Gazette, constitute a Water Disputes Tribunal for the adjudication of the water dispute.

(2) The Tribunal shall consist of one person only nominated in this behalf by the Chief Justice of India from among persons who are, or have been, judges of the Supreme Court or are Judges of a High Court.

(3) The Tribunal may appoint two or more persons as Assessors to advise it in the proceeding before it.

5. *Adjudication of Water Disputes.*—(1) When a Tribunal has been constituted under Section 4, the Central Government shall, subject to the prohibition contained in Section 8, refer the water dispute and any matter appearing to be connected with, or relevant to, the water dispute to the Tribunal for adjudication.

(2) The Tribunal shall investigate the matters referred to it and forward to the Central Government a report setting out the facts as found by it and giving its decision on the matters referred to.

(3) If, upon consideration of the decision of the Tribunal, the Central Government or any State Government is of opinion that anything therein contained requires explanation or that guidance is needed upon any point not originally referred to the Tribunal, the Central Government or the State Government, as the case may be, may within three months from the date of the decision, again refer the matter to the Tribunal for further consideration ; and on such reference, the Tribunal may forward to the Central Government a further report giving such explanation or guidance as it deems fit and in such a case, the decision of the Tribunal shall be deemed to be modified accordingly.

6. *Publication of decision of Tribunal.*—The Central Government shall publish the decision of the Tribunal in the Official Gazette and the decision shall be final and binding on the parties to the dispute and shall be given effect to by them.

7. *Prohibition of levy of seigniorage, etc.*—(1) No State Government shall, by reason of the fact that any works for the conservation, regulation or utilisation of water resources of an Inter-State river have been constructed within the limits of the State, impose or authorise the imposition of any seigniorage or additional rate or fee (by whatever name called) in respect of the use of such water by any other State or the inhabitants thereof.

(2) Any dispute or difference between two or more State Governments with respect to the levy of any water rate in contravention of the prohibition contained in sub-section (1) shall be deemed to be a water dispute.

8. *Bar of reference of certain Disputes to Tribunal.*—Notwithstanding anything contained in Section 3 or Section 5 no reference shall be made to a Tribunal of any dispute that may arise regarding any matter which may be referred to arbitration under the River Boards Act, 1956.

9. *Powers of Tribunal.*—(1) The Tribunal shall have the same powers as are vested in a Civil Court under the Code of Civil Procedure, 1908, in respect of the following matters, namely :—

(*a*) summoning and enforcing the attendance of any person and examining him on oath ;

(*b*) requiring the discovery and production of documents and material objects;

(*c*) issuing commissions for the examination of witnesses or for local investigation;

(*d*) any other matter which may be prescribed.

(2) The Tribunal may require any State Government to carry out, or permit to be carried out, such surveys and investigation as may be considered necessary for the adjudication of any water dispute pending before it.

(3) A decision of the Tribunal may contain directions as to the Government by which the expenses of the Tribunal and any costs incurred by any State Government in appearing before the Tribunal are to be paid, and may fix the amount of any expenses or costs to be so paid, and so far as it relates to expenses or costs, may be enforced as if it were an order made by the Supreme Court.

(4) Subject to any rules that may be made under this Act, the Tribunal may, by order, regulate its practice and procedure.

10. *Allowances or fees for presiding officer of Tribunal and assessors.*—The presiding officer of a Tribunal and the assessors shall be entitled to receive such remuneration, allowances or fees as may be prescribed.

11. *Bar of jurisdiction of Supreme Court and other Courts.*—Notwithstanding anything contained in any other law, neither the Supreme Court nor any other Court shall have or exercise jurisdiction in respect of any water dispute which may be referred to a Tribunal under this Act.

12. *Dissolution of Tribunal.*—The Central Government shall dissolve the Tribunal after it has forwarded its report and as soon as the Central Government is satisfied that no further reference to the Tribunal in the matter would be necessary.

13. *Power to make rules.*—(1) The Central Government, after consultation with the State Governments, may, by notification in the Official Gazette, make rules to carry out the purposes of this Act,

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely :—

(*a*) the form and manner in which a complaint as to any water dispute may be made by any State Government ;

(*b*) the matters in respect of which a Tribunal may be vested with the powers of a Civil Court ;

(*c*) the procedure to be followed by a Tribunal under this Act ;

(*d*) the remuneration, allowances or fees payable to the presiding officer of a Tribunal and Assessors ;

(*e*) the terms and conditions of service of officers of the Tribunal ;

(*f*) any other matter which has to be, or may be, prescribed.

(3) All rules made under this section shall, as soon as practicable after they are made, be laid for not less than fourteen days before both Houses of Parliament, and shall be subject to such modifications as Parliament may make during the session in which they are so laid.

THE RIVER BOARDS ACT, 1956.

No. 49 of 1956.

ARRANGEMENT OF SECTIONS.

Sections

CHAPTER I.

Preliminary.

1. Short title and commencement.
2. Declaration as to expediency of control by Central Government.
3. Definitions.

CHAPTER II.

Establishment of River Boards.

4. Establishment of Boards.
5. Composition of Board.
6. Terms and conditions of service of members.
7. Temporary absence of any member.

8. Meetings of Board.
9. Vacancy in Board, etc., not to invalidate Acts or proceedings.
10. Appointment of advisory committee.
11. Temporary association of persons with Board for particular purposes.
12. Staff of Board.

CHAPTER III.

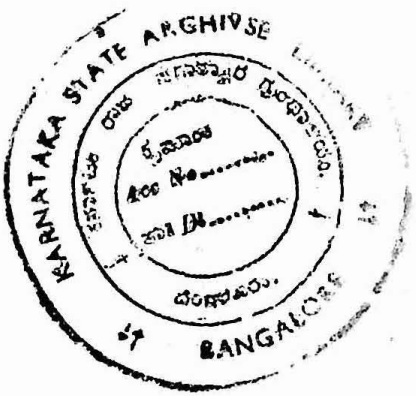
Powers and functions of the Board.

13. Matters in respect of which a Board may be authorised to tender advice.
14. Functions of Board.
15. Preparation of schemes by Board and their execution.
16. General powers of Board.
17. Payment to Board.
18. Fund of Board.
19. Budget.
20. Annual Report.
21. Accounts and audit.

CHAPTER IV.

Miscellaneous.

22. Arbitration.
23. Returns and reports.
24. Delegation of powers.
25. Members and officers of Board to be public servants.
26. Protection of action taken in good faith.
27. Dissolution of Board and transfer of assets and liabilities.
28. Power to make rules.
29. Power to make regulations.



THE RIVER BOARDS ACT, 1956

No. 49 of 1956.

12th September 1956.

AN ACT to provide for the establishment of River Boards for the regulation and development of Inter-State rivers and river valleys.

BE it enacted by Parliament in the Seventh year of the Republic of India as follows :—

CHAPTER I

PRELIMINARY

1. *Short title and commencement.*—(1) This Act may be called the River Boards Act, 1956.

(2) It shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint.

2. *Declaration as to expediency of control by Central Government.*—It is hereby declared that it is expedient in the public interest that the Central Government should take under its control the regulation and development of Inter-State rivers and river valleys to the extent hereinafter provided.

3. *Definitions.*—In this Act, unless the context otherwise requires,—

(*a*) "Board" means a River Board establishment under Section 4;

(*b*) "Governments interested," in relation to a Board, means the Governments of those States which in the opinion of the Central Government, are likely to be interested in or affected by, the functions of the Board under this Act;

(*c*) "member," means a member of a Board and includes its Chairman;

(*d*) "prescribed" means prescribed by rules made under this Act.

CHAPTER II

ESTABLISHMENT OF RIVER BOARDS

4. *Establishment of Boards.*—(1) The Central Government may, on a request received in this behalf from a State Government or otherwise, by notification in the Official Gazette, establish a River Board for advising the Governments interested in relation to such matters concerning the regulation or development of an inter-State river or river valley or any specified part thereof and for performing such other functions as may be specified in the notification, and different Boards may be established for different Inter-State rivers or river valleys.

Provided that no such notification shall be issued except after consultation with the Governments interested with respect to the proposal to establish the Board, the persons to be appointed as members thereof and the functions which the Board may be empowered to perform.

(2) A Board may be established under such name as may be specified in the notification under sub-section (1).

(3) Every Board so established shall be a body corporate having perpetual succession and a common seal, and shall by the said name sue and be sued.

(4) Every Board shall exercise its jurisdiction within such limits of the river (including its tributaries, if any) or river valley as may be specified in the notification under sub-section (1) and the area so specified shall be called the area of operation of the Board.

5. *Composition of Board.*—(1) The Board shall consist of a Chairman and such other members as the Central Government thinks fit to appoint.

(2) A person shall not be qualified for appointment as a member unless, in the opinion of the Central Government, he has special knowledge and experience in irrigation, electrical engineering, flood control, navigation, water conservation, soil conservation, administration or finance.

6. *Terms and conditions of service of members.*—(1) A member shall, unless his appointment is terminated earlier by the Central Government, hold office for such

period as may be notified in this behalf by the Central Government in the Official Gazette and shall, on the expiry of the term of his office, be eligible for re-appointment.

(2) A member may resign his office by writing under his hand addressed to the Central Government, but he shall continue in office until the appointment of his successor is notified in the Official Gazette.

(3) A casual vacancy created by the resignation of a member under sub-section (2) or for any other reason shall be filled by fresh appointment.

(4) A member may be appointed either as a whole-time or part-time member as the Central Government thinks fit.

(5) The terms and conditions of service of the Chairman and other members shall be such as may be prescribed.

7. *Temporary absence of any member.*—If any member is by infirmity or otherwise rendered temporarily incapable of carrying out his duties or is absent on leave or otherwise in circumstances not involving the vacation of his appointment, the Central Government may appoint another person to act in his place.

8. *Meetings of Board.*—The Board shall meet at such times and places and shall observe such rules of procedure in regard to the transaction of business at its meetings as may be provided by regulations made under this Act.

9. *Vacancy in Board, etc., not to invalidate Acts or proceedings.*—No act or proceeding of the Board shall be deemed to be invalid by reason only of the existence of any vacancy in the Board or any defect in the appointment of a member thereof.

10. *Appointment of Advisory Committee.*—The Board may, from time to time, appoint one or more advisory committee or committees for the purpose of enabling it to carry out its functions under this Act.

11. *Temporary association of persons with Board for particular purposes.*—(1) The Board may associate with itself in such manner and for such purposes as may be

determined by regulations made under this Act any person whose assistance or advice it may desire in performing any of its functions under this Act.

(2) A person associated with the Board under sub-section (1) for any purpose shall have a right to take part in the discussions of the Board relevant to that purpose, but shall not have a right to vote at a meeting of the Board, and shall not be a member for any other purpose.

12. *Staff of Board.*—Subject to such rules as may be made by the Central Government in this behalf, the Board may, for the purpose of enabling it to efficiently perform its functions or exercise its powers under this Act, appoint such officers as it may think fit and determine their functions and terms and conditions of service.

CHAPTER III

Powers and functions of the Board

13. *Matters in respect of which a Board may be authorised to tender advice.*—A Board may be empowered under sub-section (1) of section 14 to perform all or any of the following functions, namely :—

(*a*) Advising the Governments interested on any matter concerning the regulation or development of any specified Inter-State river or river valley within its area of operation and in particular, advising them in relation to the co-ordination of their activities with a view to resolve conflicts among them and to achieve maximum results in respect of the measures undertaken by them in the Inter-State river or river valley for the purpose of—

(i) Conservation, control and optimum utilisation of water resources of the Inter-State river ;

(ii) Promotion and operation of schemes for irrigation, water supply or drainage ;

(iii) Promotion and operation of schemes for the development of hydro-electric power ;

(iv) Promotion and operation of schemes for flood control ;

(v) Promotion and control of navigation;

(vi) Promotion of afforestation and control of soil erosion;

(vii) Prevention of pollution of the waters of the Inter-State river;

(viii) Such other matters as may be prescribed.

(*b*) Preparing schemes, as including multi-purpose schemes, for the purpose of regulating or developing the Inter-State river or river valley and advising the Governments interested to undertake measures for executing the scheme prepared by the Board;

(*c*) Allocating among the Governments interested the costs of executing any scheme prepared by the Board and of maintaining any works underaken in the execution of the scheme;

(*d*) Watching the progress of the measures undertaken by the Governments interested;

(*e*) Any other matter which is supplemental, incidental or consequential to any of the above functions.

14. *Functions of Board.*—(1) The Central Government, after consultation with the Governments interested, may, by notificaion in the Official Gazette, empower the Board to perform all or such of the functions under section 13 as may be specified in the notification.

(2) The Board shall exercise its powers and perform all the functions which it is empowered to do by or under this Act within its area of operation.

(3) In performing its functions under this Act, the Board shall consult the Governments interested at all stages and endeavour to secure, as far as may be practicable, agreement among such Governments.

15. *Preparation of schemes by Board and their execution.*—(1) Where any Board has been empowered to perform functions under clause (b) of section 13, the Board may, from time to time, prepare schemes, not inconsistent with its functions under this Act, for the purpose of regulating or developing any Inter-State river or river valley within its area of operation.

(2) After preparing any such scheme, the Board shall consult the Governments interested and the Central Government in respect of the scheme and after considering their suggestions, if any, the Board may confirm, modify or reject the scheme.

(3) The scheme as confirmed or modified under sub-section (2) shall thereupon become final and shall be called the approved scheme.

(4) Before any scheme is approved, the Board shall take into account the costs likely to be incurred in undertaking measures for executing the scheme and in maintaining any works to be undertaken in the execution of the scheme and the costs shall be allocated among the Governments interested in such proportion as may be agreed or, in default of agreement, as may be determined by the Board having regard to the benefits which will be received from the scheme by them.

(5) Every approved scheme shall be forwarded to the Governments interested and the Board may advise them to undertake measures for executing the scheme and a copy of the approved scheme shall also be forwarded to the Central Government.

(6) The Central Government may, on a request received in this behalf from any Government interested or otherwise, assist the Governments interested in taking such steps as may be necessary for the execution of the scheme.

16. *General powers of Board.*—For the purpose of efficiently performing its functions under this Act, every Board may, within its area of operation,—

(*a*) acquire, hold and dispose of such property, both movable and immovable, as it deems necessary;

(*b*) undertake such preliminary investigation or surveys or other measures as it deems necessary;

(*c*) inspect or cause to be inspected any works undertaken by any Government interested concerning the regulation or development of the Inter-State river or river valley;

(*d*) conduct and co-ordinate research on various aspects of the conservation, regulation or utilisation of water resources, such as water power

generation, irrigation, navigation, flood control, soil conservation, land use and connected structural and design features;

(*e*) collect such topographical, meteorological, hydrological and sub-soil water data as it deems necessary;

(*f*) publish statistics or other information relating to the various aspects of the regulation or development of the Inter-State river or river valley;

(*g*) require any Government interested to furnish such information as the Board may require in relation to—

(i) the measures undertaken by that Government for the regulation or development of the Inter-State river or river valley;

(ii) the topographical, meteorological, hydrological and sub-soil water data;

(iii) such other matters as may be prescribed.

17. *Payment to Board.*—The Central Government may, after due appropriation made by Parliament by law in this behalf pay to the Board in each financial year such sums as the Central Government may consider necessary for the performance of the functions of the Board under this Act.

18. *Fund of Board.*—(1) The Board shall have its own fund, and all sums which may, from time to time, be paid to it by the Central Government or a State Government and all other receipts of the Board shall be carried to the fund of the Board and all payments by the Board shall be made therefrom.

(2) The Board may expend such sums as it thinks fit for performing its functions under this Act, and such sums shall be treated as expenditure payable out of the fund of the Board.

19. *Budget.*—The Board shall prepare, in such form and at such time each year as may be prescribed, a budget in respect of the financial year next ensuing showing the estimated receipts and expenditure, and copies thereof shall be forwarded to the Central Government and the Governments interested.

20. *Annual Report.*—The Board shall prepare, in such form and at such time each year as may be prescribed, an annual report giving a true and full account of its activities during the previous year and copies thereof shall be forwarded to the Central Government and the Governments interested; and the Central Government shall cause every such report to be laid before both Houses of Parliament.

21. *Account and Audit.*—(1) The Board shall cause to be maintained such books of account and other books in relation to its accounts in such form and in such manner as may be prescribed.

(2) The accounts of the Board shall be audited at such time and in such manner as may be prescribed.

CHAPTER IV.

MISCELLANEOUS.

22. *Arbitration.*—(1) Where any dispute or difference arises between two or more Governments interested with respect to—

(*a*) Any advice tendered by the Board under this Act;

(*b*) Any measures undertaken by any Government interested in pursuance of any advice tendered by the Board;

(*c*) the refusal or neglect of any Government interested to undertake any measures in pursuance of any advice tendered by the Board;

(*d*) the sharing of benefits or financial liabilities arising out of any advice tendered by the Board;

(*e*) any other matter covered by this Act or touching or arising out of it, any of the Governments interested may, in such form and in such manner as may be prescribed, refer the matter in dispute to arbitration.

(2) The arbitrator shall be a person to be appointed in this behalf by the Chief Justice of India from among persons who are, or have been, Judges of the Supreme Court or are Judges of a High Court.

(3) The arbitrator may appoint two or more persons as assessors to assist him in the proceeding before him.

(4) The decision of the arbitrator shall be final and binding on the parties to the dispute and shall be given effect to by them.

(5) Nothing in the Arbitration Act, 1940, shall apply to arbitrations under this section (10 of 1940).

23. *Returns and Reports.*—The Board shall furnish to the Central Government such returns, statistics, accounts and other information with respect to its fund or activities as the Central Government may from time to time require.

24. *Delegation of Powers.*—The Board may, by general or special order in writing, delegate to the Chairman or any other member or any officer of the Board, subject to such conditions and limitations, if any, as may be specified in the order, such of its powers and functions under this Act as it may deem necessary for the efficient running of the day-to-day administration of the Board.

25. *Members and Officers of Board to be Public Servants.*—All members and officers of a Board shall, when acting or purporting to act in pursuance of any of the provisions of this Act, be deemed to be public servants within the meaning of Section 21 of the Indian Penal Code. (45 of 1860).

26. *Protection of action taken in good faith.*—No suit or other legal proceeding shall lie against any member or officer of a Board in respect of anything which is in good faith done or intended to be done in pursuance of this Act.

27. *Dissolution of Board and transfer of assets and liabilities.*—(1) When the Central Government is of opinion that a Board has performed its functions under this Act, the Central Government, after consultation with the Governments interested, may, by notification in the Official Gazette, declare that the Board shall be dissolved from such date as may be specified in this behalf in such notification; and the Board shall be deemed to have been dissolved accordingly.

(2) On the dissolution of the Board by a notification under sub-section (1),—

(*a*) all properties, funds and dues which are vested in, or realisable by, the Board shall vest in, and be realisable by, such Government or authority as may be specified in the said notification; and

(*b*) all liabilities which are enforceable against the Board shall be enforceable only against the Government or authority specified in the said notification.

28. *Power to make Rules.*—(1) The Central Government may, by notification in the Official Gazette, make rules to carry out the purposes of this Act.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(*a*) the salaries, allowances and conditions of service of members of the Board;

(*b*) the matters in respect of which a Board may tender advice to the Governments interested under sub-clause (viii) of clause (*a*) of section 13;

(*c*) the matters in respect of which the Board may require a Government interested to furnish information;

(*d*) the manner in which the Central Government may assist the Governments interested to execute any scheme prepared by the Board;

(*e*) the form in which, and the time within which the budget and annual report of the Board may be prepared and forwarded to the Central Government and the Governments interested;

(*f*) the form and manner in which the accounts of the Board may be maintained, and the time at which, and the manner in which, such accounts may be audited;

(*g*) the returns and information which the Board may be required to furnish to the Central Government;

(*h*) the form and manner in which a dispute may be referred to arbitration under this Act;

(*i*) the procedure to be followed in arbitration proceedings under this Act;

(*j*) the manner of recruitment of the officers of a Board and the terms and conditions of service of such officers;

(*k*) any other matter which has to be, or may be, prescribed.

(3) All rules made under this section shall, as soon as practicable after they are made, be laid before both Houses of Parliament.

29. *Power to make Regulations.*—The Board may, with the previous approval of the Central Government, by notification in the *Gazette of India,* make regulations, not inconsistent with this Act or the rules made thereunder—

(*a*) regulating the meetings of the Board and the procedure for conducting business thereat;

(*b*) regulating the manner in which and the purposes for which advisory committees may be appointed;

(*c*) regulating the manner in which and the purposes for which persons may be associated with the Board under section 11;

(*d*) determining the terms and conditions of service of the members of advisory committees, of persons associated with the Board under section 11 and of all officers appointed by the Board.

(14) Extract from

The States Reorganisation Act, 1956

(37 of 1956)

Part IX.

Provisions as to certain Corporations and Inter-State Agreements and Arrangements.

107. *Continuance of arrangements in regard to generation and supply of electric power and supply of water:*

If it appears to the Central Government that the arrangement in regard to the generation or supply of electric power or the supply of water for any area or in regard

to the development of any project for such generation or supply has been or is likely to be modified to the disadvantage of that area by reason of the fact that it has been transferred by the provisions of Part II from the State in which the power stations and other installations for the generation and supply of such power, or the catchment area reservoirs and other works for the supply of water, as the case may be, are located, the Central Government may give such directions as it deems proper to the State Government or other authority concerned for the maintenance, so far as practicable, of the previous arrangement.

108. *Continuance of agreements and arrangements relating to certain irrigation, power or multi-purpose projects* :

(1) Any agreement or arrangement entered into between the Central Government and one or more existing States or between two or more existing States relating to—

(*a*) the administration, maintenance and operation of any project executed before the appointed day, or

(*b*) the distribution of benefits, such as, the right to receive and utilise water or electric power, to be derived as a result of the execution of such project,

which was subsisting immediately before the appointed day shall continue in force, subject to such adaptations and modifications, if any (being of a character not affecting the general operation of the agreement or arrangement) as may be agreed upon between the Central Government and the Successor State concerned or between the successor States concerned, as the case may be, by the first day of November 1957, or, if no agreement is reached by the said date, as may be made therein by order of the Central Government.

(2) Where a project concerning one or more of the existing States affected by the provisions of Part II has been taken in hand, but not completed, or has been accepted by the Government of India for inclusion in the

Second Five-Year Plan before the appointed day, neither the scope of the project nor the provisions relating to its administration, maintenance or operation or to the distribution of benefits to be derived from it shall be varied,—

(*a*) in the case where a single successor State is concerned with the project after the appointed day, except with the previous approval of the Central Government, and

(*b*) in the case where two or more successor States are concerned with the project after that day, except by agreement between those successor States, or if no agreement is reached, except in such manner as the Central Government may by order direct,

and the Central Government may from time to time give such directions as may appear to it to be necessary for the due completion of the project and for its administration, maintenance and operation thereafter.

(3) In this section, the expression "Project" means a project for the promotion of irrigation, water supply or drainage or for the development of electric power or for the regulation or development of any Inter-State river or river valley.

1956.

(15) PALAR WATER DISPUTE.

Minutes of the meeting held at Bangalore on the 29th June and 1st and 2nd July 1956 *in the office of the Chief Engineer, Mysore, in connection with Palar Water Dispute, when the following were present:*

Shri L. P. Bhargava, I.S.E.,
Shri S. R. Vasudev,
Representatives of the Government of India.
Shri U. Ananda Rao, Chief Engineer, Madras.
Shri H. Ananthachar, Chief Engineer, Mysore.

The following issues were framed :—

The 1892 Agreement has been infringed by Mysore Government, because :

(i) the F.T.Ls. of Bethamangalam, Ramasagara and Holali tanks have been raised ;

(ii) Withdrawal from Bethamangalam tank on account of water supply has exceeded 72 M.C.ft. the agreement figure.

(iii) Mysore Government have constructed some new tanks in Palar Basin in contravention of the agreement ;

(iv) Mysore Government have constructed another anicut below Bethamangalam tank against the spirit of the agreement ;

(v) Mysore Government has been withdrawing water by pumps and otherwise direct from the river for irrigation purposes in violation of the agreement.

Regarding issue No. (i) and (ii), it was decided :

Bethamangalam Tank.—As a result of joint inspection it was noticed that the maximum height to which the crest of the weir of the tank could have been raised is 3 feet, the height of the gates. There is, however, no convincing evidence of this having been done. Even, however, if it is assumed that the crest has been raised by 3 feet, the Mysore Government were within their right to raise it up to 9 feet under the Madras Government letter No. 1071-1, dated the 13th September 1902, provided the withdrawal from the tank was limited to 72 M.C.ft. per annum. The record of the last 51 years indicates that the average annual withdrawal has been 61.5 M.C.ft. The withdrawal for the last 8 to 10 years has been in excess of 72 M.C.ft. by 5 to 20 M.C.ft. The reason for this excess, as given by the Chief Engineer, Mysore, is increase in the fire accidents in and increased requisition by Kolar Gold Fields. This increased withdrawal has been partially met according to the Chief Engineer, Mysore, from Holali tank which was converted from an irrigation tank into a water supply tank in the year 1904. We can, therefore, say that the 1892 agreement has not been infringed so far as Bethamangalam tank is concerned.

Ramasagara Tank.—Joint inspection indicates that there has been no raising of this tank and therefore there has been no infringement of 1892 Agreement in connection with this tank.

Holali Tank.—This tank was not inspected. This was converted from the irrigation tank into a water supply tank in the year 1904 under Mysore Government, G.O. No. R. 2273-6—Mis. 547-03-39, dated the 10th September 1904. There is no dispute regarding this tank.

Regarding issue No. (iii) the Chief Engineer, Mysore, has given a statement of all the existing tanks in the Palar basin. No new tanks have been constructed by the Mysore Government in the prohibited area.

Of the six tanks mentioned by the Chief Engineer, Madras, in his note, two have no direct irrigation. Irrigation under three varies from 4 to 5 acres. Yeddatta Eri has been in existence prior to 1892 and, therefore, cannot be taken as a new tank. All these tanks are outside the prohibited area and do not come within the purview of 1892 agreement.

Regarding issue No. (iv) the Chief Engineer, Mysore, said that the only anicut below Bethamangalam Tank is the Karivuddu anicut. He promised to produce details of irrigation on this from 1892 onwards to prove that this extent was in use by the ryots although the actual irrigation was less than the proposed figure of 50 acres.

If it is proved that the anicut has not been in use for 30 years or more, the Madras Government withdraws the complaint.

Regarding issue (v), the withdrawal of water direct from the river does not fall within the purview of the 1892 agreement and as such irrigation done by use of pikotas or kapilas some of which have been converted into pumps recently, does not infringe the 1892 agreement.

During our inspection, we noticed some pikotas out of use and some converted from pikotas or kapilas into pumps. These are old existing wells.

The conversion of pikotas and kapilas into pumps increase the withdrawal and, therefore, some restriction has to be placed on the use of power pumps to be installed in place of pikotas and kapilas so as to restrict the direct withdrawal from the river in order to protect the lower riparian rights.

Conclusions.

The complaint of infringement of 1892 agreement by Mysore was discussed at length and an amicable settlement was arrived at. We were satisfied that the Government of Mysore have not infringed the agreement. However, to safeguard against future disputes, it is decided that the Mysore Government should connect all the weir crest levels of tanks and anicuts falling within the prohibited area with G.T.S. bench marks. This should be done jointly with the Government of Madras as a special case. Complete dimentioned plans showing G.T.S. values of Bethamangalam, Ramasagara and Holali tanks should be supplied to the Madras Government with complete dimensions of Bethamangalam tank.

As regards other tanks and voddus within the prohibited zone, a statement showing the number of tanks and voddus, their location, waste weir levels should be supplied to the Government of Madras.

In order to find out causes of diminution of supplies at the Palar Anicut as alleged by Government of Madras, it was decided that the Government of Madras should investigate all withdrawals of water from the Palar basin between Mysore border and Palar anicut particularly in the Andhra State area and supply a copy of the report to Mysore Government complete with statistics as collected.

To meet the keen demand for water in Madras State, the Government of Madras should look to other resources than Palar River.

(Sd.) L. P. Bhargava,
Member,
Central Water and Power Commission.

(Sd.) U. Ananda Rao,
2-7-1956.
Chief Engineer,
Irrigation, Madras.

(Sd.) S. R. Vasudev,
2-7-1956.
Director, C.W. and P.C.

(Sd.) H. Ananthachar,
2-7-56.
Chief Engineer, Mysore.

(16) *Summary record of the proceedings of the Inter-State Conference on the Tungabhadra High Level Canal held at Residency Buildings, Bangalore, on 18th June 1956.*

The Conference was held under the Chairmanship of Shri V. T. Krishnamachari, Deputy Chairman, Planning Commission, and the following participated :—

Government of Andhra :

1. Shri N. Sanjeeva Reddy, Deputy Chief Minister of Andhra.
2. Shri V. V. Subramaniam, I.C.S., Secretary, Public Works Department.
3. Shri L. Venkatakrishna Iyer, I.S.E., Special Chief Engineer for Irrigation.

Government of Mysore :

1. Shri Kadidal Manjappa, Minister for Revenue and Public Works.
2. Dr. R. Nagan Gowd, Minister for Agriculture.
3. Shri D. K. Srinivasachar, I.A.S., Secretary, Public Works Department.
4. Shri Balasubramaniam, Secretary, Planning.
5. Shri Ananthachar, Chief Engineer.
6. Shri D'Sa, Chief Electrical Engineer.

Government of India :

1. Shri Kanwar Sain, I.S.E., Chairman, Central Water and Power Commission, New Delhi.
2. Shri S. Swayambu, Chief, Natural Resources Division, Planning Commission, New Delhi.
3. Shri Ripudaman Singh, I.S.E., Deputy Secretary, Ministry of Irrigation and Power, New Delhi.
4. Shri George Ommen, Director (Dam Designs), Central Water and Power Commission, New Delhi.

Tungabhadra Board:

1. Shri B. K. Gokhale, I.C.S. (Retired), Chairman, Tungabhadra Board.
2. Shri A. R. Venkataraman, I.S.E., Chief Engineer (Irrigation Branch), and Secretary, Tungabhadra Board.

Opening the discussions, the Deputy Chairman invited reference to the provisions regarding the High Level Canal in the States Reorganisation Bill. He stressed the need for an agreement between the parties so that work could start urgently.

2. Shri Kanwar Sain made a brief comment on the Central Water and Power Commission's technical report which was circulated earlier as a basis for the sharing of waters. On page 9, he pointed out a correction to the factor 6-2/3 which should be changed to 8.2 and that as a consequence the share of water would become 30 : 70 instead of 28 : 72 for Mysore and Andhra.

3. The Deputy Chairman then enquired from the State Engineers what would be the quantity of water available for release through the High Level Canal. The Chief Engineers of both Mysore and Andhra stated that a figures of 50,000 M.C.ft. would be a reasonably correct estimate and this was also confirmed by Shri A. R. Venkataraman. It was, however, agreed that allowing for some marginal adjustment the availability could be taken to be in range of 45 to 50 T.M.C.ft.

4. After exchanges of views, it was unanimously agreed that the waters of the High Level Canal should be shared in the ratio of 35 : 65 between Mysore and Andhra.

In regard to the implementation of the scheme, it was agreed that the execution of all the common works in respect of the High Level Canal should be undertaken by the Tungabhadra Board and that the Chief Engineer of the Board should undertake immediately the planning and design of the canal with such changes as may be required as a result of the sharing now agreed to. In

doing this, the Chief Engineer of the Board should act as the convenor and evolve the designs in close consultation with the Chief Engineers of Andhra and Mysore.

It was also agreed that the sharing of the cost of the common works of the canal should generally be on cusec-mile basis.

5. Shri V. T. Krishnamachari congratulated the Representatives of the two States on the spirit of accommodation shown by them. He observed that all the preliminary works should be taken in hand as early as possible with a view to utilising fully the services of the staffs with the Tungabhadra Board.

(17) Central Water and Power Commission. (Water Wing).

A Brief Note on revision of the 1951 *Memorandum of Agreement regarding utilisation of Krishna and Godavari waters in the light of the Reorganisation of States.*

14/1/Irr. 58/WIN/24-2-1959.

1. *Introductory.*—The Memorandum of Agreement showing distribution of Krishna and Godavari waters was finally agreed to by the States of Bombay, Madras (Andhra), Hyderabad and Madhya Pradesh. As regards Mysore State, which was also represented in the Conference held in this connection in 1951, it is not known whether they have ratified the agreement.

From a perusal of a memorandum of Agreement, it appears that allocation, after protecting the existing uses and commitments already made by the riparian States as in 1951 have been made on the basis of possible beneficial use of water in the various States.

Consequent to the reorganisation of States, the allocations made in 1951 memorandum will have to be modified because of the transfer of certain projects or their commanded area from one State to another and in the case of Hyderabad State, allocation will have to be redistributed among the reorganised States of Bombay, Mysore and Andhra Pradesh.

Further, the water utilisation figures during 1951, at the time of the award, specially for projects under operation and under construction need to be modified if the scope of any of the projects have undergone a change.

In accordance with the provisions of the States Reorganisation Act, 1956, the reorganised States concerned, namely Bombay, Andhra Pradesh, Mysore and Madhya Pradesh were requested to take early action for revision of the Memorandum of Agreement 1951 and supply of the necessary data for the preparation of the revised memorandum but so far the State Governments have only indicated that the matter is receiving attention and necessary information is being collected.

2. *Basis for reallocation.*—An attempt has been made to reallocate the share of waters among the reorganised States in respect of Projects under operation (existing utilisation) and projects under construction on the basis of the present situation of the projects in the new boundaries keeping the total utilisable figure as indicated in the 1951 memorandum in tact.

As details for minor projects (under operation and construction) have not been indicated in the memorandum, these have been reallocated among the States on the basis of the average areas irrigated by canals, tanks and other sources in the tracts of the basin (remaining in the State or transferred to the other States) during the period 1947 to 1950, preceding the memorandum of agreement.

Regarding the allocation for future utilisation in various States, the share of waters have been revised on the same basis of the present situation of the projects but keeping the same proportion as existing between the total allocations made and the total demands of the former States as indicated in the Planning Commission's pamphlet No. PC(V) 95—51, published in 1952 on utilisation of Krishna and Godavari waters.

For medium and other projects where details have not been indicated, the shares have been reallocated in proportion to the utilisation, contemplated by major projects in the former States.

3. *Reallocation of waters.*—(*a*) *Krishna River.*—The Krishna river (having a total catchment area of 97,050 square miles) during its course of 775 miles passes through the reorganised States of Bombay, Mysore and Andhra Pradesh.

As per 1951 Memorandum of Agreement, the dependable annual flow in the Krishna basin based on the recorded gaugings (years 1895 to 1945) at Vijayawada site in Andhra Pradesh was accepted as 1,715 T.M.C.ft. This figure, it is stated in the agreement, may have to be increased to allow for omissions in respect of existing utilisations in any State.

Sri Venkatachari's (the then Madras Representative) statement that the actual flow would be in excess of the recorded gauged flow by 8 per cent was recorded and to some extent was perhaps taken into consideration while allocating the waters.

Allocations indicated in the 1951 Memorandum of Agreement are given in Statement I.

According to the basis for reallocation of waters as indicated in para 2 above, the revised shares of Krishna waters of the States concerned for projects under (i) operation in 1951 ; (ii) Construction in 1951 ; and (iii) Contemplation in 1951 are given in the Statements II, III and IV, respectively.

As regards Hyderabad State water utilisation figures for the projects under contemplation in 1951 have been taken on the basis of apportionment made by the former Hyderabad State Government of their share for future utilisation as given in their report on the Lower Krishna Project. The details of water utilisation for projects subsequently included in the First Five-Year Plan and projects included in the Second Five-Year Plan are given in Statements V and VI.

On the above basis, the share of the Krishna waters for the reorganised States will tentatively be as indicated in Statement VII. It will be seen from this statement that a balance of 362 T.M.C.ft. is available for future utilisation after the completion of all the projects included

in the Second Five-Year Plan. But the actual balance available for future utilisation will be much less when the proposed utilisation in respect of projects indicated in the Statements V and VI for which water utilisation figures are not available and any omission in existing utilisation or commitments already made by the State are taken into account.

(*b*) *Godavari River.*—The river Godavari is the largest in South India. It has a catchment area of 1,16,300 square miles lying in the reorganised States of Andhra Pradesh, Bombay, Mysore, Madhya Pradesh and Orissa.

As per 1951 Memorandum of Agreement, the dependable annual flow of 2,500 T.M.C.ft. in the Godavari river basin based on recorded gaugings during the years 1881 to 1946 at Dowleshwaram anicut in Andhra Pradesh was accepted.

Allocations indicated in the 1951 Memorandum of Agreement are given in Statement VIII.

Orissa State is not a party to the agreement though the tributaries of Godavari river, namely Indravati, Sabri and Sileru rise in that State. It is gathered that Orissa has certain schemes already under operation in 1951 utilising about 22.0 T.M.C.ft. of Godavari waters. It is also understood that Orissa State contemplates a further utilisation of about 20.0 T.M.C.ft. for projects under investigation.

The Orissa Government have been requested to supply the details of water utilisation of Godavari river basin in their State and their reply is still awaited.

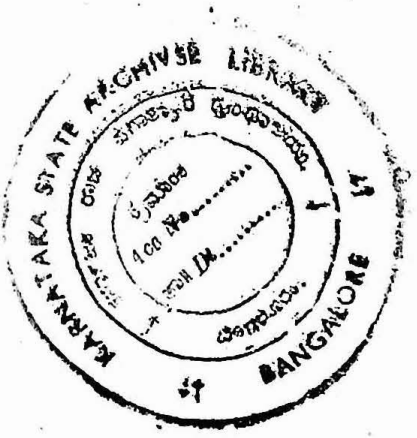
According to the basis for reallocation of waters as indicated in para 2 above, the revised shares of Godavari waters of the States concerned for projects under (i) operation in 1951, (ii) Construction in 1951 and (iii) Contemplation in 1951 are given in the Statements IX, X and XI, respectively.

The details of water utilisation for projects subsequently included in the First Five-Year Plan and projects included

in the Second Five-Year Plan, as given by the Superintending Engineer, Central India and Deccan Rivers Circle, are given in Statements XII and XIII, respectively.

Based on the above considerations, the share of Godavari waters for the reorganised States will tentatively be as indicated in the Statement XIV.

It is observed from the Statement that 1839 T.M.C.ft. of water are still unutilised and will be available for future projects after the completion of all the projects included in the Second Five-Year Plan, subject to the correctness of the utilisation figures for projects and any omissions in existing utilisation or commitments already made by the States.



STATEMENT I.

KRISHNA BASIN.

Allocation as per 1951 Memorandum of Agreement.

State	Water utilisation in T. M. C.ft. for projects under							Balance flow in excess of 1744.5	Remarks
	Operation		Construction		Contemplation				
	Project	Qty.	Project	Qty.	Project	Qty.	Percentage	Per centage	
1	2	3	4	5	6	7	8	9	10
1. Bombay	Minor	120	1. Ghataprabha L. B. Canal 2. Mulchir weir 3. Radhanagri 4. Minor	15 8 11.3 21.7	1. Koyna. 2. Ghataprabha Valley. 3. New Khadak. wasla. 4. Kukadi. 5. Asoga. 6. Vir. 7. Others.	..	..	..	Ghataprabha valley project, Mulchir weir and certain minor projects now lie in Mysore State.
	Total	120		56.0		240.0	24%	30%	
2. Mysore	Vani Vilas Sagar.	30	1. Bhadra 2. Tunga	57.0 11.5	1. Bhadra Anicut. 2. Vedavati. 3. Other works.	..	..	..	It is stated in the agreement that the allocation to Mysore may have to be slightly adjusted to the extent of additional 1% as a result of further engineering scrutiny. This addition will come out from the share of Madras (Now Andhra.)
	Total	30		68.5		10.0	1%*	1%	

3. Madras (Now Andhra Pradesh.)	1. K. C. Canal	10	1. Tungabhadra	65.0	1. Krishna Pennar (Nagarjuna-sagar.)	..	..	..	With the splitting up of Madras State in 1953 into Madras and Andhra, the Krishna river basin became the territory of Andhra State except for a small portion to Mysore State. Due to the reorganisation of the States—portions of the Krishna basin, *i. e.*, Nalgonda, Mahbubnagar, Warangal and Hyderabad districts of Hyderabad State have now merged with Andhra; water utilisation for the projects on the Krishna river in these districts automatically go to Andhra.
	2. Vijaya-wada anicut.	200			2. Pulichintala.				
	3. Other Projects	15			3. Tungabhadra High Level Canal.				
	Total	225		65.0		470	47%	39%	
4. Hydera-bad.	Minor	90	1. Tungabhadra	65.0	1. Lower Krishna.	..	..	..	Hyderabad State is abolished and portions merged with Bombay, Mysore and Andhra States. Water utilisation for projects in the State shall have to be apportioned corresponding to areas and projects transferred to other States. The Government of former Hyderabad State have already indicated apportionment of their share of 280 T. M. C.ft. for future projects in the Lower Krishna project report as under.
			2. Rajolibanda	17.0	2. Upper Krishna.				
			3. Minor	8.0	3. Bhima				
					4. Medium and Minor.				
					5. Extension under Tungabhadra				
	Total	90		90.0		280	28%	30%	
Grand Total		465		279.5		1,000	100%	100%	

1. Lower Krishna .. 125
2. Upper Krishna .. 80
3. Bhima .. 35
4. Extra for Tungabhadra . 20
5. Medium and Minor projects. 20

Total .. 280

STATEMENT II.

RE-ALLOCATION OF KRISHNA WATERS.

(*a*) Existing utilisation (as in 1951).

Name of State and Projects	Water utilisation in T.M. Cft.	Remarks
1. Bombay.—		
(i) Minor Works	81.0 @	Allocation of waters for minor works is based on average ..
(ii) Minor works from Hyderabad	3.8 *	areas irrigated during the period 1947 to 1950 in the reorganised set up of the States.
Total ..	84.8	
2. Mysore.—		
(i) Vanivilas Sagar	30.0	@ Out of former Bombay's share of 120.0 T.M. Cft. for
(ii) Minor projects from Bombay	39.0 @	minor projects, Mysore gets 39.0 T.M. Cft. on the basis
(iii) Minor projects from Hyderabad	7.2 *	mentioned above.
Total ..	76.2	
3. Andhra.—		
(i) K. C. Canal	10.0	* Out of the Hyderabad share of 90 T.M. Cft. for minor
(ii) Bezwada anicut	200.0	projects, Andhra, Mysore and Bombay get 79.0, 7.2 and
(iii) Miscellaneous	15.0	3.8 T.M. Cft. respectively on the basis mentioned above.
(iv) Minor projects from Hyderabad	79.0 *	
Total ..	304.0	
Grand Total ..	465.0	

STATEMENT III.

Re-Allocation of Krishna Waters.

(*b*) Projects under Construction (as in 1951)

Name of State and Project	Water Utilisation in T. M. Cft.	Remarks
1. Bombay.—		
(i) Radhanagri	11.3	Former Bombay and Hyderabad were allotted 21.7 and 8.0 T. M. Cft. for minor projects respectively, which has been distributed on the basis of average areas irrigated in the basin during the years 1947 to 1950 in the reorganised set up of States.
(ii) Minor works (Pushpawati, Ranand, Tarabi, etc.)	17.3	
(iii) Minor projects from Hyderabad	1.7	
Total ..	30.3	
2. Mysore.—		
(i) Bhadra	57.0	@ Tungabhadra utilising 65.0 T. M. Cft. in Hyderabad State has been wholly transferred to Mysore State and a portion of Bellary district benefited by Tungabhadra Project in Madras State became Mysore's territory in 10/53. Therefore, the share of water utilised for this portion (*i. e.* 24 T. M. Cft. out of 65.0 T. M. Cft. for Madras State) worked out on the basis of proposed areas irrigated as given in the project report also goes to Mysore.
(ii) Tunga Anicut	11.5	
(iii) Tungabhadra @	89.0	
(iv) Rajolibunda	17.0	
(v) Ghataprabha L. B. Canal	15.0	
(vi) Kolchi weir	8.0	
(vii) Minor works from Bombay	4.4	
Tota ..	201.9	
3. Andhra.—		
(i) Tungabhadra @	41.0	
(ii) Minor projects from Hyderabad	6.3	
Total ..	47.3	
Grand Total ..	279.5	

STATEMENT IV.

Re-Allocation of Krishna Waters.

(c) Future Utilisation.

Sl. No.	Project/State	Water utilisation in T.M. Cft. As demanded	Water utilisation in T.M. Cft. As worked out from the awarded figures	Remarks
I.	Bombay.—			
1.	Koyna Irrigation and H. E. (I and II Stages.)	173.0		In the memorandum of agreement, 25.0 T. M. Cft. is allotted for other works for former Bombay State.. This is distributed as 20 : 5 between new Bombay and Mysore in the ratio of utilisation of waters for major projects transferred from Bombay to the present States of Bombay and Mysore.
2.	New Khadakwasala Dam	33.0		
3.	Kakadi reservoir project.	28.0		
4.	Asoga reservoir	25.0		
5.	Vir Dam	14.0	192.5	
6.	Bhima storage	12.0		
7.	Other projects	20.0		
	Total ..	305.0	192.5	
II.	Mysore.—			
1.	Bhadra Anicut	5.0		Only 10 T. M. Cft. was previously allocated to Mysore. It was also recorded that allocations to Mysore may have to be slightly adjusted to the extent of additional 10 T. M. Cft. as a result of further Engineering scrutiny. This addition will come out of share of Madras.
2.	Vedavathi	1.0	10.0	
3.	Other works	19.5		
4.	Projects of former Bombay			
	(a) Ghataprabha valley	70.0	47.5	
	(b) Other project	5.0		

5. Projects of former Hyderabad				
(a) Upper Krishna	165.0			Refer to remarks against item 4 under Andhra.
(b) Bhima	80.0			
(c) Extension of irrigation on Tungabhadra .	35.0	145.0		
(d) Other projects	32.5			
6. Tungabhadra H. L. Canal	8.75	17.5 *		* As a portion of Bellary District benefited by T.H.L. Canal in former Madras State became the territory of Mysore at the time of creation of Andhra State, the share of water utilised for this portion goes to Mysore.
Total ..	421.75	220.0		
III. Andhra.—				
1. Krishna-Pennar Project	825.0			Madras State was awarded 470 T. M. Cft. for these Projects As per revised data available, Tungabhadra H. L. Canal requires 50 T. M. Cft. Out of this 17.50 T M. Cft. (*i. e.*, 35 per cent) is to be utilised in Mysore and the rest in Andhra as agreed to by them in June 1956. 65 per cent of the demand for this project is shown under Andhra. They, therefore, get 470—17.5 = 452.5 T. M. Cft. from the share of Madras.
2. Pulichintala Project	100.0	452.5		
3. Tungabhadra High Level Canal (Andhra Portion.)	16.5			
4. Projects of former Hyderabad ..				As per Lower Krishna Project report, the award of 280 T. M. Cft made to former State of Hyderabad was apportioned as follows by Hyderabad Government.
(a) Lower Krishna Project	240.00	135.0		
(b) Other Projects	32.50			
Total ..	1213.75	587.5		(i) Lower Krishna .. 125
Grand Total ..	1940.5	1000.0		(ii) Upper Krishna .. 80
				(iii) Bhima .. 35
				(iv) Tungabhadra (extra) .. 20
				(v) Other Projects .. 20
				Demand for item No. (v) has been distributed equally between Andhra and Mysore as areas transferred to those States are almost equal.

STATEMENT V.

KRISHNA BASIN.

Projects subsequently included in the First Five-Year Plan.

Sl. No.	Reorganised State Project	Water utilisation in T.M. Cft.	Remarks
1	2	3	4
1.	Bombay.—		
	1. Ghod dam	10.00	Water utilisation for Ghod is taken from the project report and that for Koyna, it is based on the proportionate share in relation to the allocation made to former Bombay against their demand.
	2. Koyna irrigation and H. E. Scheme	109.20	
	Total ..	119.20	
2.	Mysore.—		
	1. Extra for Bhadra reservoir	18.00	@ Former Hyderabad State was allotted 65.0 T. M. Cft. for this project and they intended to utilise 20 T. M. Cft. more out of their share for future projects.
	2. Less for Tunga Anicut	—4.00	
	3. Extra for Tungabhadra @	20.00	
	4. Tungabhadra H. L. Canal	17.50	Water utilisation for Tungabhadra H. L. Canal project has been worked out on the basis of share agreed to by the States of Andhra Pradesh and Mysore States in June 1956.
	5. Medium and Minor Projects for former Hyderabad.	Not Available.	
	(i) Ramana halla		
	(ii) Maskenala		
	(iii) Kakerwani		
	(iv) Kamlavati		

6.	Medium and Minor projects of Mysore	..	Not Available.	
	(i) Ambligola	.. ..	..	
	(ii) Narayanapura Anicut	.. ..	..	
	(iii) Kariyala tank	.. ..	..	
	(iv) Irkasandra tank	.. ..	..	
	(v) Sangenhalli tank	.. ..	..	
7.	Medium and Minor Projects of Andhra Pradesh.		Not Available.	The total does not include the utilisation of projects for which the data are not available.
	(i) Tuppadahalli tank	.. ..	———	
	(ii) Gadimakunte tank	.. ..		
	Total	..	51.5	
3.	Andhra.—			
1.	Remodelling of K. C. Canal	.. ..	58.3	
2.	Bhairavantippa	.. ..	Not Available.	
3.	Krishna Barrage	.. ..	Do	
4.	Nagarjunasagar	.. ..	306.0	The project inlcudes water utilisation of 125 T. M. Cft. for Lower Krishna Project contemplated by former Hyderabad.
5.	Tungabhadra H. L. Canal	.. ..	32.5	Refer remarks under item 4, Mysore State.
6	Project of former Hyderabad	.. ..	..	
	(i) Musi	.. ..	5.7	
	Total	..	402.5	
	Grand Total	..	573.2	

STATEMENT VI.

KRISHNA BASIN.

Projects included in Second Five Year Plan.

Sl. No.	Name of re-organised State/Project	Water utilisation in T.M.Cft.	Remarks
I.	Bombay.—		
1.	Vir dam	9.40	The total does not include the utilisation for projects for which the data are not available.
2.	Khadakwasla Dam	21.60	
3.	Varna	2.10	
4.	Medium and Minor projects of former Hyderabad State like Tirana, etc.	Not available.	
	Total ..	33.10	
II.	Mysore.—		
1.	Projects of former Bombay State		
	(iii) Jambadahalla	0.5	
	(ii) Ghataprabha Stage II	31.0	
	(iii) Medium and Dharma	Not available.	
2.	Medium and Minor projects of former Hyderabad like Kankanala, etc.	Not available.	
3.	Medium and Minor projects of former Andhra Pradesh like Hagaribommanahalli, etc.	Not available.	
	Total ..	31.5 *	
III.	Andhra.—		
	Medium and Minor projects of former Hyderabad State.	Not available.	This includes projects like (i) Lakshmisagar, (ii) Chinnamusi, (iii) Akher, (iv) Lakhnapur, (v) Jutpally and (vi) Doripallyvagu, etc.
	Grand Total ..	64.6 *	

STATEMENT VII.

KRISHNA RIVER BASIN.

Abstract of water utilisation in the Re-organised States.

Sl. No.	State	Water utilisation in T. M. Cft.		Projects subsequently included in Five Year Plan	Projects in Second Five Year Plan	Balance left for future projects
		For projects existing and under construction in 1951	Future projects (To be undertaken after 1951)			
1.	Andhra ..	351.3	587.5	402.5	..	185.0
2.	Bombay ..	115.1	192.5	119 .2	33.1	40.2
3.	Mysore ..	278.1	220.0	51.5	31.5	137.0
	Total ..	744.5	1000.0	573.2	64.6	362.2

Note.—Details for column (3) are given in Statements II and III and details for columns (4), (5) and (6) are given in Statements IV, V and VI respectively.

STATEMENT VIII.

GODAVARI BASIN.

Allocation of Godavari Waters as per 1951 Memorandum of Agreement.

Sl. No	States before re-organisation	Projects under operation		Projects under construction		Projects under contemplation and/or investigation			Remarks
		Name	Utilisation in T.M.Cft.	Name	Utilisation in T.M.Cft.	Name	Utilisation in T.M.Cft.	Percentage	
1	2	3	4	5	6	7	8	9	10
I.	Bombay.	1. Godavari Canal. 2. Parwara Canals. 3. Minor works.	50.0 ..	Gangapur Canal.	7.0	Assumed ..	57.0 ..	3 Per cent	Percentage mentioned in Col. (9) for future utilisation will apply for all States whether the supplies are in excess or short of the dependable annual flow of 2500 T.M.Cft. assumed. This was agreed to by the States in 1951.
		Total ..	50.0		7.0		57.0	3	
II.	Hyderabad	Nizamsagar .. Munair dam .. Minor works	153.1	Godavari North Canal.	53.0	2. Purna Dam 2. Donur Dam 4. Upper Godavari Dam at Kushitapatnam	..	..	
				Bendusara project.	1.6	5. Penganga Dam 6. Lower Munair 7. Prabitta Dam			

						8. Lower Godavari at Inchampalli. 9. Medium minor projects. 10. Minor works			
		Total	..	153.1		54.6		494.0	26%
III.	Madras (Now Andhra.	Delta Irrigation.		300.0	..	..	Ramapadasagar Dam.	893.0	47%
		Total	..	300.0		..		893.0	47%
IV.	Madhya Pradesh.	Assumed		30.0 *	..	..	1. Wainganga North of Khapa 2. Penganga at Amti. 3. Wardha river east of Morai. 4. Indravati, Chitrakoti, Barsur, Bhopal Patnam. 5. Sabari at Guma 6. Wainganga reservoir. 7. Absorption and evaporation losses.	..	..
		Total	..	30.0		..		456.0	24%
		Grand Total	..	533.0		62.0		1900.0	100%

30.0 T. M. Cft. were allotted for existing utilisation and for projects under construction. As the details of projects are not available, the full share has been considered as existing utilisation.

KARNATAKA STATE ARCHIVES LIBRARY BANGALORE

STATEMENT IX.

GODAVARI BASIN.

Re-allocation of Godavari Waters—(a) Existing utilisation (as in 1951.)

Sl. No.	Re-organised State and name of project	Water utilisation in T.M.Cft. as per 1951 award	Remarks
Andhra Pradesh.—			
1.	Delta Irrigation	300.00	* For minor works in the former Hyderabad State, 91.7 T.M.Cft. was allotted. This is distributed between Andhra and Bombay in the ratio of average irrigated areas in the States during the years 1947-50 as follows. Andhra .. 86.34, Bombay .. 5.36 } 91.70
2.	Projects of former Hyderabad State :		
	(a) Nizamsagar	58.00	
	(b) Munair dam	3.40	
	(c) Minor irrigation in portion of former Hyderobad State now lying in Andhra.	86.34 *	
	Total	447.74	
Bombay.—			
1.	Godavari Canals	} 50.00	
2.	Parwara Canals		
3.	Minor works in former Bombay		
4.	Medium and Minor projects of former Hyderabad State.	5.36 *	
5.	Medium and minor irrigation projects of former Madhya Pradesh State.	19.20	As per award, 30 T.M.Cft. was allocated to Madhya Pradesh for minor works. This is distributed on the basis of average irrigated areas in the basin during the years 1947-50 as M. P. 10.8 and Bombay 19.2 T. M. Cft.
	Total	74.56	
Madhya Pradesh.—			
1.	Wainganga Canal system	} 10.8	
2.	Medium and Minor projects		
Orissa.—			
1.	Minor irrigation	..	No award has been made to Orissa. However, it is understood that minor irrigation works are utilising about 22.0 T.M.Cft.
	Grand Total	532.88	

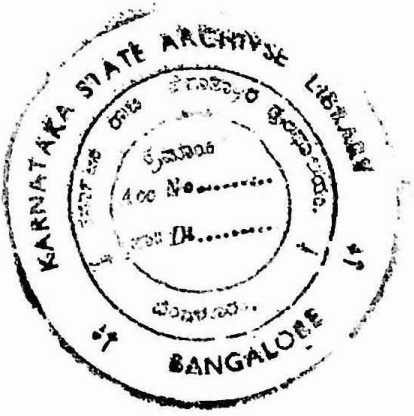
STATEMENT X.

GODAVARI BASIN.

Re-allocation of Godavari Waters.

(*b*) Projects under construction as per 1951 Memorandum of Agreement.

	Name of Re-organised State/Project	Water utilisation in T. M. Cft.
I.	Andhra.—	
1.	Projects of former Hyderabad Godavari North Canal (Kadam Project).	53.0
II.	Bombay.—	
1.	Gangapur Canal (near Nasik)	7.0
2.	Project of former Hyderabad, Bendsura Project ..	1.6
	Total ..	8.6
	Grand Total ..	61.6



STATEMENT XI.

GODAVARI BASIN.

Re-allocation of Godavari Waters.

(c) Future utilisation.

Sl. No.	Reorganised States State/Project	Water utilisation in T. M. Cft. As demanded	Water utilisation in T. M. Cft. As worked out from the awarded figures	Remarks
Andhra.—				
1.	Ramapadasagar Dam	1035.00	893.0	₰ For medium and minor projects the shares have been re-allocated in proportion to utilisation contemplated by major projects of former Hyderabad State transferred to Andhra and Bombay States.
2.	Projects of former Hyderabad State—			
	(*a*) Upper Godavari dam at Kushta Patnam (Godavari North Canal).	227.00		
	(*b*) Lower Munair dam	32.00		
	(*c*) Lower Godavari dam at Inchampally ..	32.00	350.0 *	* Former Hyderabad State were allotted 494 T.M.Cft. against their demand of 517 T.M.Cft. for future utilisation. The shares have been re-allocated in the proportion as existing between the total allocations made and the total demand of former State.
	(*d*) Devnoor dam on Manjira river ..	27.00		
	(*e*) Medium and Minor projects	48.40 ₰		
	Total ..	1401.40	1243.0	

Bombay.—

1. Assumed	10.00	57.0	
2. Projects of former Hyderabad State—			
(*a*) Purna dam on Purna river	36.00	144.0 *	
(*b*) Penganga dam	53.00		
(*c*) Probhitta dam	32.00		
(*d*) Medium and Minor projects	29.60 &		
3. Projects of former Madhya Pradesh :			Distribution of evaporation & absorption losses has been made on proportion to utilisation contemplated by major projects of former Madhya Pradesh State that now lie in reorganised Madhya Pradesh State.
(*a*) Penganga at Amti	75.00	254.0 **	
(*b*) Wardha river east of Morei	19.00		
(*c*) Wainganga reservoir projects	160.00		
(*d*) Absorption and evaporation losses ..	12.35 &		
Total ..	426.95	455.0	

Madhya Pradesh.—

1. Wainganga North of Khapa	12.00	..	
2. Indravati Chitar Koti	20.00	..	** Former Madhya Pradesh were allowed 456T.M Cft. against a demand of 480. The shares have been re-allocated in proportion as existing between the total allocation made and the total demand of former State, *viz.*, the re-organised States of Madhya Pradesh and Bombay get 254 and 202 respectively.
3. Barner; Bhepalpatnam	..	..	
4. Sabari at Guma	173.00	..	
5. Absorption and evaporation losses ..	9.65 &	..	
Total ..	213.65	202.00 **	
Grand Total ..	2042.00	1900.00	

STATEMENT XII.

GODAVARI BASIN.

Projects subsequently included in the First Five-Year Plan.

Sl. No.	Name of Reorganised State and Project	Water utilisation in T. M. Cft.
I.	Andhra Pradesh.—	
	1. Sirala ..	0.43
II.	Bombay.—	
	1. Godavari Canal	2.04
	2. Medium and minor projects of former Hyderabad State.	1.41
	3. Medium and minor projects of former M. P. State (Kayar Dam, Weir and Tank, etc.).	2.74
	Total ..	6.19
III.	Madhya Pradesh.—	
	Minor projects	1.25
	Grand Total ..	7.87

Project of former Hyderabad State.

STATEMENT XIII.

GODAVARI BASIN.

Projects included in the Second Five-Year Plan.

Sl. No.	Name Reorganised State and Project	Water utilisation in T. M. Cft
I.	Andhra Pradesh.—	
	1. Projects of former Hyderabad :	
	(*a*) Suvarna (Sowli)	5.73
	(*b*) Rama Gudu	1.83
	(*c*) Sudhavagu	1.89
	(*d*) Nakavagu	1.30
	(*e*) Medium and minor works	4.91
	Total ..	15.66
II.	Bombay.—	
	1. Projects of former Hyderabad :	
	(*a*) Purna	24.47
	(*b*) Maner	3.66
	(*c*) Wen	1.40
	(*d*) Medium and minor works	3.55
	2. Projects of former Madhya Pradesh:	
	(*a*) Bor	2.43
	(*b*) Kekatumra	0.75
	Total ..	36.26
III.	Madhya Pradesh :—	
	(*i*) Naleswara	0.85
	Grand Total ..	52.77

STATEMENT XIV.

GODAVARI RIVER BASIN.

Abstract of Water Utilisation in Reorganised States.

Sl. No.	Reorganised State	Water utilisation in T. M. Cft.					Remarks
		Projects under operation and construction in 1951	Future Projects after 1951	Projects subsequently included in the Five-Year Plan	Second Plan Projects	Balance left out of future utilisation	
1.	Andhra Pradesh ..	500.8	1243.0	0.4	15.7	1226.9	Orissa was not a party to the 1951 agreement although it is understood that existing minor works are utilising about 22.0 T.M.Cft. and future projects are contemplated to utilise about 20.0 T. M. Cft.
2.	Bombay	83.4	455.0	6.2	26.3	412.5	
3.	Madhya Pradesh ..	10.8	202.0	1.3	0.8	109.9	
4.	Orissa	..	..	..	..	..	
	Total ..	595.0	1900.0	7.9	52.8	1839.3	

Note:—Details for column (3) are given in Statements IX and X and details for columns (4), (5) and (6) are given in the statements XI, XII and XIII respectively.

(18) PROCEEDINGS OF THE MEETING HELD AT HYDERABAD IN THE CHAMBERS OF THE SPECIAL CHIEF ENGINEER, IRRIGATION, ANDHRA PRADESH, AT 12 NOON ON 24TH FEBRUARY 1959.

Officers Present:

1. Sri L. Venkatakrishna Iyer, Special Chief Engineer, Irrigation, Andhra Pradesh.
2. Sri G. S. Ganapathy, Chief Engineer (General), Mysore.
3. Sri L. C. Muniswamy Reddy, Chief Engineer, Major Irrigation (North), Mysore.
4. Sri K. Padmanabhan, Under Secretary to Government, Public Works Department, Mysore.

Subjects 1 to 13 under Section III that had been raised by the Andhra Government along with subjects 1, 5, 6 and 8 under Section IV raised by Mysore were discussed in detail. Item 6 under Section III was taken up in conjunction with item I under Section IV.

The following conclusions were reached :—

Section III—Subjects relating to other Projects proposed by the Government of Andhra Pradesh :

1. *Irrigation—Ananthapur District—Madakasira Taluk—raising of waste weir of Muddalore Tank of Mysore State—particulars—regarding original standards of tank asked for —*

It was agreed that the full particulars of the tank before and after alterations would be furnished to the Andhra Government as desired by them.

2. *Irrigation—Diversion of water of Jayamangali river at Rampur Anicut* 1944*—Agreement—Joint conduction of gaugings in river suggested—Result of joint inspection by Andhra and Mysore Officers—result asked for —*

It was agreed that the observation sites proposed by Mysore above the frontier and above the back water level with gauges be established instead of having regular

gaugings and if necessary after channelisation of the river course and that the Andhra Pradesh Government have no objection to meet half the cost thereof.

3. *Irrigation—Mysore State—Restoration of certain tanks in Mysore—Particulars asked for—Joint inspection suggested to Mysore—*

The particulars put up and which had already been furnished to the Andhra Pradesh Government were reviewed and it was agreed that the joint inspection pressed for by Andhra may go through.

4. *Irrigation—Mysore State—North Pennar and Kumudvathi Feeder Projects—Particulars called for—*

The details put up were perused by the Chief Engineer, Andhra Pradesh Government, and it was agreed that full particulars should be furnished to Andhra Pradesh Government.

5. *Irrigation—Mysore State—Irrigation Projects and Power Development—Extracts from Mysore Information Bulletin—Particulars called for (for verifying whether they will adversely affect Andhra Irrigation interests)—*

This subject was considered along with item No. 13. The particulars of the project in the Tungabhadra Basin regarding the capacity and atchkat along with an index map were agreed to be furnished to Andhra Pradesh Government.

6. *Irrigation—Ananthapur District—Deficient supply to Bukkapatnam Tank—Due to diversion of Chitravathi waters by Mysore—Particulars called for—*

This subject was taken up along with subject No. 1 of Section IV, i.e., Tirumani anicut across Chitravati river, Bageplly Taluk, proposed by Mysore. The Chief Engineer, Andhra Pradesh, insisted upon the gaugings to be finalised before taking up the project as in his view Bukkapatnam tank was already suffering for want of water. He incidentally raised that there were certain

lift irrigation schemes along the river course which were affecting supplies to Bukkapatnam tank; and as desired by him it was agreed to have joint inspection of Ramasagaram tank, S dlaghatta Taluk and to furnish details of the lift irrigation schemes to Government of Andhra Pradesh.

7. *Irrigation—Ananthapur District—Pennar—Kumudvathi Project—Draft agreement—asked for—*

The original draft agreement of 1948 which had subsequently been revised was perused and on the Chief Engineer, Mysore, insisting, it was agreed that grade walls across the North-Pennar river would be absolutely necessary to draw feeder channels therefrom. The Chief Engineer, Andhra Pradesh, agreed to such construction of scouring sluices of adequate dimensions being provided to meet lower needs. Regarding clause 4 of the agreement about the details of regulation which was found to be not only elaborate but cumbersome also by both the Chief Engineers, it was agreed that this could be further examined by the technical Officers of the respective Governments and simplified.

The additional clause introduced in accordance with the Inter-State Water Disputes Act 33 of 1956 was generally agreed upon with the proviso, however, that nothing in this shall affect the rights and responsibilities under the agreement of 1892.

8. *Irrigation—Ananthapur District—Bhairavanthippa Project—Particulars of cost of Anti-malarial operations in Mysore State and ayacut under their Narayanapur Anicut, etc., asked for—*

The Chief Engineer, Mysore, impressed upon the Chief Engineer, Andhra Pradesh, that the construction of a bridge at a cost of nearly Rs. 7 lakhs at the Milanahalli-Obalapuram site was an absolute necessity. The Chief Engineer, Andhra Pradesh, promised to consider this issue.

The Chief Engineer, Andhra Pradesh, however, suggested that the loss of revenue could be calculated, capitalised and finalised instead of payment of assessment for a number of years.

It was impressed upon the Chief Engineer, Andhra Pradesh, that impounding should be restricted to a stage where no material damage is done to habitations. The Mysore Chief Engineer agreed that rehabilitation will be pushed through.

9. *Irrigation—Ananthapur District—Upper Pennar Project—Draft final agreement called for—*

The original agreement contemplated the acquisition of only 47 acres and 34 guntas up to M.W.L., but the Chief Engineer, Andhra Pradesh, wanted acquisition up to F.R.L. being decided once and for all which worked out to nearly 260 acres. Even here he suggested that the loss of revenue be calculated for being capitalised once and for all instead of there being any lease. The draft agreement was proposed to be finalised in consultation with the Revenue and Law Departments before ratification.

10. *Irrigation—Mysore State—Construction of Gayathri Reservoir across Suvarnamukhi river, Tributary to Hagari river—Particulars called for—*

It was agreed tthat the details of the Project would be furnished to Andhra Pradesh Government.

11. *Irrigation—Ananthapur District—Hindupur Taluk—Lepakshi Village—Investigation of—Supplies of tanks—*

The Chief Engineer, Andhra Pradesh, stated that certain lands adjoining the surplus weir had been sold out and brought freshly under cultivation. He wanted to have full details and suggested joint inspection which was agreed to.

12. *Irrigation—Projects under construction by Mysore Government—Lakkavalli Reservoir—*

It was explained by the Chief Engineer, Mysore, that the working tables of the Lakkavalli Reservoir, were being finalised and would be placed before the Tungabhadra Board and Andhra Pradesh early.

Section IV—Other subjects proposed by the Mysore Government.

5. *Deficient supply to Thammadipalli tank of Andhra State, Madakasira Taluk owing to interception by Mysore in Pavagada Taluk*—

It was agreed that a fresh joint inspection may be had and the subject concluded early thereafter.

6. *Damage to bund across Suvarnamukhi near Agali village, Madakasira Taluk of Andhra by Mysore ryots and improvement of supply channel from Suvarnamukhi river to Kittagali Tank of Mysore*—

It was agreed that the subject may be taken up afresh, necessary hydraulic particulars collected on both the sides and a conclusion arrived at.

8. *Deonur project on the river Manjira flowing through Bidar District into Andhra Pradesh*—

In regard to the Deonur Project, the Chief Engineer, Andhra Pradesh, stated that this was being considered as an irrigation project and incidentally to supply water to Nizam Sagar for power generation. He also stated that there was no alteration in the size of the Reservoir as has been originally contemplated and that the Project was under active consideration of the Government of Andhra Pradesh.

III

(*a*) Pennar-Kumudvathi Project, Andhra State.

Draft Agreement.

Agreement dated the ..... day of one thousand nine hundred and fifty-nine between His Excellency the Governor of Madras (which expression shall include his successors and assigns) of the one part and His Highness the Rajapramukh of Mysore (which expression shall include his heirs and assigns) of the other part.

Whereas the Government of Madras propose to con-

struct an anicut, to be known as the Pennar-Kumudvathi Anicut across the Pennar river half a mile below the junction of that river with the Kumudvathi river, near Hindupur, for the Pennar-Kumudvathi project to feed certain tanks in the State of Madras.

And whereas the Government of Madras and Mysore consider it necessary and expedient to come to an agreement in regard to the use of the waters of the Pennar in respect of their respective proposals referred to above.

Now these presents witness as follows :—

I. (1) The Government of Madras shall be entitled to construct an anicut across the Pennar river half a mile below the junction of that river with the Kumudvathi river, such anicut to be known as the Pennar-Kumudvathi Anicut (hereinafter called the anicut). The anicut shall be 560 feet long with its crest at 2,034.50, with two sets of under-sluices, one set consisting of four vents, being on the left side and the other set consisting of two vents on the right side, each vent being 7 feet 6 inches × 4 feet with the sills of the undersluices at *plus* 2,024.50 and with two sets of head sluices, one set consisting of three vents, each vent being 4 feet 3 inches × 4 feet 6 inches, on the right side and the other set consisting of six vents, each vent being 6 feet × 5 feet 3 inches, on the left side, with sills at *plus* 2,029.00. Channels may be excavated from either bank of the river from the anicut to supplement the supply to the Parigi and seven other tanks mentioned in Annexure 'A' hereto, so that the supply of water to the existing registered ayacut of about 6,156 acres under the said eight tanks may be improved. The capacities and ayacuts of the said eight tanks shall not be increased.

N.B.—Constructive details aforesaid are subject to alterations and these alterations shall be subject to the approval of the Government of Mysore.

(2) From 1st December to 31st May each year supplies up to 100 cusecs at the anicut shall be passed through the undersluices or scouring vents for the purpose of keeping alive the springs further down for the benefit of 275 acres of land belonging to the Mysore State, situated about thirty-five miles below the anicut, which are irrigated by

bailing water from wells on the margin of the Pennar river, but not for the purpose of supplying the entire water required for the 275 acres aforesaid. The quantity to be passed through as aforesaid may be modified by mutual agreement between the Chief Engineers of the two States. From 1st June to 30th November of each year, all or any of the flood supplies at the anicut may, to the extent necessary, be diverted to the eight tanks referred to in Annexure 'A'.

(3) The Government of Mysore shall for the purpose of supplementing the water available from existing sources to the 13 Mysore tanks referred to in Annexure 'B' hereto be entitled to divert the flows from the Pennar river above the anicut by putting up wherever necessary diversion anicuts of suitable height across the river and by drawing channels therefrom to feed the tanks. The capacities and ayacuts of the abovesaid thirteen tanks shall not be increased beyond what they were when the tanks were constructed. The manner in which the diversion of the river water will be effected is left to the Government who will duly intimate their proposals in time to the Government of Madras.

Nothing contained in this agreement shall affect the right of the Government of Mysore to divert the flow from the Pennar river above the anicut by putting up wherever necessary diversion anicuts of suitable height across the river and to draw channels therefrom to feed the 13 Mysore tanks referred to in Annexure 'B' hereto and for the purpose of supplementing the water available from existing sources to those tanks. The Government of Mysore shall always be entitled to so exercise that right.

(4) The Government of Mysore shall also be entitled to draw from the river for their proposed Nagarbhavi tank with a suitable capacity on Varvani, a tributary of the Pennar, sufficient quantity of water for the irrigation of 170 acres.

(5) The details of the arrangements necessary for this agreement and the records to be maintained therefor and all other matters connected therewith shall be such as may be mutually agreed upon by the two Governments. The said arrangements may be modified by mutual agreement.

(6) The Government of Mysore shall permit the Government of Madras to station their officers and staff at Gauribidanur for the purpose of this agreement and shall afford all facilities asked for by such staff, *viz.*, access to the river and channel and their heads, gauge registers and other records. The Government of Madras shall afford similar facilities to the Government of Mysore at the anicut, river and channels.

II. The Government of Madras and Mysore hereby agree that if at any time there should arise any dispute between them touching the interpretation or operation or carrying out of this agreement, such disputes shall be referred for settlement to two Arbitrators, one to be appointed by each Government, and in case of difference of opinion between the two Arbitrators, the matter shall be referred to an Umpire to be appointed by both the Governments.

III. The Governments of Mysore and Madras agree that the arrangements embodied in Clause 1 shall, at the expiry of thirty years from the date of execution of these presents, be open to revision in the light of experience gained during that period at the instance of either party subject to the condition that in the event of such revision, all rights established under this agreement up to the date of such revision shall continue unimpaired.

IV. Nothing contained in the foregoing clauses shall be deemed to qualify or limit in any manner the operation of the agreement, dated the 18th February 1892, between the Governments of Madras and Mysore in regard to matters other than those to which this agreement relates.

IN WITNESS WHEREOF..... acting for and on behalf of and by the order and direction of His Excellency the Governor of Madras and..... .....acting for and on behalf of and by the order and direction of His Highness the Rajpramukh of Mysore, have hereunto set their hands.

Signed by the said
in the presence of

Signed by the said
in the presence of

ANNEXURE 'A'.

Statement of tanks of the Madras State to be fed by the two new channels taking off above the Pennar-Kumudvathi anicut.

Name of Tank.	*Storage Capacity at F.T.L. in Million Cubic feet*	*Registered ayacut in acres*
LEFT SIDE :		
1. Parige Tank	568.30	2,839
2. Kodiganahalli tank ..	15.84	227
3. Subbarayanapalli Kunta ..	1.44	89
4. Sasanakota tank ..	3.56	49
RIGHT SIDE :		
5. Kotnur Tank	81.51	1,509
6. Kottakunta	3.97	38
7. Utekur Tank	172.28	1,343
8. Gorvikunta Tank ..	8.48	57
.. Total ..	855.38	6,156

ANNEXURE 'D'.

[See clause 1(2)]

Statement of tanks in Gauribidanur Taluk to be served by the new inundation channels of the Mysore State from the Pennar River.

No.	*Name of Tank*	*Sl. No.*	*Atchkat in acres.*	*Capacity in Units.*	*Net supply available based on rainfall statistics*	*Additional protection required in Units.*
1.	Thondebhavi Sannakere	109	45	10	19	26
2.	Goddagere Kalaginakere	97	103	14	40	63
3.	Varuvani Ittamanakunte	98	180	23	44	136
4.	Kurubarahalli Melekunte	79	44	38	31	13
5.	Kurubarahalli Nanjappanakere ..	81	216	74	24	192
6.	Huduvathi Sannakere	117	69	20	32	37
7.	Halagenahalli Gollachikkanakunte ..	120	99	26	39	60

No.	Name of Tank	Sl. No.	Atchkat in acres.	Capacity in Units.	Net supply available based on rainfall statistics	Additional protection required in Units.
8.	Gangasandra Hosakere	77	230	60	55	175
9.	Kudumalakunte Malleswarakere ..	54	164	52	34	130
10.	Doddakurugode Doddakere ..	58	259	119	67	192
11.	Kalludi Doddakere ..	62	155	100	28	127
12.	Kadabur tank ..	71	193	48	20	173
13.	Gangasandra Muduganakunte ..	74	312	48	27	285
	Total ..		2,060			

N.B.—Items 10 to 13 are in the valley of the Mogam, a tributary to Pennar.

(*b*) Draft Agreement—Upper-Pennar Project, Madras (Now Andhra).

Agreement dated the.....day of..... one thousand nine hundred fifty.....between His Excellency the Governor of Madras (which expression shall include his successors and assigns) of the one part, and His Highness the Rajpramukh of Mysore (which expression shall include his heirs and assigns) of the other part.

Whereas the Government of Madras proposed to construct a reservoir across the Pennar river near Perur village in Ananthapur District.....miles below the State boundary;

Whereas the above reservoir when constructed will bring under submersion some acres of cultivated lands and river Peramboke within the State;

And whereas the Governments of Madras and Mysore consider it necessary and expedient to come to an arrangement regarding the conditions of compensation, etc., to be paid by the one part (Madras) to the other part (Mysore);

Now these presents witness as follows :

I. (1) The Government of Madras is permitted to construct a reservoir across the Pennar river near Perur Village in Ananthapur District.....miles below the State boundary, of capacity 1,000 M.Cft. and maximum water level R.L. 1,760 above sea level ;

(2) The Government of Madras shall pay the Mysore Government acquisition cost on 47 acres 34 guntas excluding the Peramboke land valued at Rs. 17,000 This together with any enhanced compensation which may be awarded by a Civil Court has to be borne by the Government of Madras ;

(3) The extent of land and the compensation cost are subject to verification after the completion of the project ;

(4) The Government of Madras shall pay the loss of revenue on the private lands to be acquired, which revenue is equivalent to the existing land revenue ;

(5) The Government of Madras shall pay the actual assessment on the assessed unoccupied lands, such assessment being that fixed during the last re-survey ;

(6) On unassessed Poramboke lands coming under submersion (such extent being subject to final verification as at clause 3 *supra*) a flat rate of one anna per acre per annum to be paid by the Government of Madras ;

(7) The entire lands coming under submersion shall be considered to be as on lease to the Government of Madras for a period of 999 years ;

(8) The Government of Madras shall pay for the shifting of Vadrevu village, meeting the entire cost towards rehabilitation, which includes the cost of the buildings and sites in the present village, the cost of transit, cost of layout of the new village and all amenities, as roads, drains, drinking water wells and other sanitary conveniences ;

(9) The Mysore Government shall undertake to see that the village is shifted to a new site within about 10 miles radius from its present site and within a period of eight years after the reservoir is completed ;

(10) The Madras Government shall pay towards the cost of construction of fresh roads, culverts, bridges and other structures in lieu of those affected by the water-spread.

(11) The cost towards staff to be employed for the purpose of acquisition and the replacement works shall be met by the Government of Madras ;

(12) The Government of Madras shall pay the Mysore—Government the cost towards the value of trees standing on lands belonging to the Mysore Government.

(13) Compensation towards the irrigation wells coming under submersion shall be paid by the Madras Government.

(14) The ryots enjoying the prescriptive rights and privileges from the irrigation wells to be submerged shall be permitted to construct new wells on the margins of the new reservoir for raising garden crops.

(15) The Government of Madras shall pay towards the cost of a high level causeway to be freshly constructed to facilitate ryots travelling from one bank to the other to obviate traversing a long distance round the water-spread.

II. The Governments of Madras and Mysore hereby agree that if at any time there should arise any dispute between them touching the interpretation of, or operation or carrying out of this agreement, such disputes shall be referred for settlement to two arbitrators, one to be appointed by each Government and in case of difference of opinion between the two arbitrators, the matter shall be referred to an Umpire to be appointed by both the Governments.

III. This agreement shall not be deemed to qualify or limit in any manner the operation of the Agreement dated the 18th February 1892 between the Governments of Madras and Mysore, and the Pennar-Kumudvathy Agreement under ratification by the two Governments in regard to matters other than those to which this Agreement relates.

IN WITNESS WHEREOF..... acting for and on behalf of and by the order and direction of His

Excellency the Governor of Madras.....and .....acting for and on behalf of and by the order and direction of His Highness the Rajpramukh of Mysore, have hereunto set their hands.

Signed by the said.....
in the presence of.....

Signed by the said.....
in the presence of.....

IV.

Copy of letter No. 17/P., dated 22nd April 1959 from Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects, Munirabad Camp: Bangalore, to the Chairman, Committee for Reviewing Inter-State Agreements of River Valleys, Bangalore.

Sub.—Sharing of Godavari Waters.

Ref.—Your D.O. No. 9, dated 1st April 1959.

With reference to your letter cited above, I enclose herewith a note regarding the requirements of Mysore State of Godavari waters, prepared by the Superintending Engineer, Raichur Circle, based on the information gathered from records. The figure of 11 T.M.C.ft. shown in the earlier notes was only tentative and did not take into consideration the minor schemes contemplated.

2. As per the details now worked out, the approximate share of the Mysore State for Godavari waters is 20 T.M.C.ft. as summarised below:—

	T.M.Cft.
(1) Existing utilisation in Bidar District in Godavari valley ..	2.2
(2) Manjira Project (contemplated) ..	2.0
(3) Karanja Project (contemplated) ..	8.0
(4) Minor irrigation schemes (contemplated) ..	7.0
(5) Water Supply Schemes (contemplated) ..	0.8
Total ..	20.0

Detailed notes on Karanja project, Manjira project and Deonur project (of Andhra Pradesh) are enclosed as desired. The salient features of the causeway on the Manjira river on Zahirabad-Nanded road are given in Annexure D, which may be useful in assessing the yield.

A note on the sharing of Godavari waters for utilisation in Bidar District in Mysore State.

A. and B.—Total catchment area of the tributaries of the Godavari river running through Mysore State and their proportionate areas in the Mysore and Bombay States.

There are only two tributary rivers of Godavari main river that are flowing in Bidar District of Mysore State and they are the Karanja and Manjira. The total drainage area of these two rivers in Bombay and Mysore State together is 5,960 square miles, out of which 1,850 square miles lie in Bidar of Mysore State and the rest in the new Bombay State.

C. *Total and proportionate yields* :

The total yield of these rivers at the downstream border of the Mysore State is about 60 T.M.Cft. assuming on an average about 10 T.M.C.ft per square mile of the catchment area. Accordingly, the portion of the yield belonging to the Mysore State proportionate to the catchment (1,860 square miles) comes to about 18.60 T.M.C.ft. or say 20 T.M.C.ft.

D. *Existing utilisation* :

About 11,000 acres of the Bidar Ditsrict are under irrigation, 2,000 acres being under existing tanks and about 9,000 acres under various sanctioned irrigation development works. These 11,000 acres require about 2.2 T.M.Cft. assuming an average of 5 acres per M.Cft. based on the present existing irrigation practice for the mixed crops. However, this may shoot up more if more of wet crops are introduced.

Details regarding existing storage and crops irrigated below the same are not available on records.

The existing utilisation is, therefore, of the order of 2.2 T.M.Cft.

E. *Contemplated projects* :

Pilot schemes for the following two medium irrigation projects have been prepared :

(1) Karnja project on Karnja river requiring 8.0 T.M.Cft. of water.

(2) Manjira project on Manjira river requiring 2.0 T.MCft. of water.

The brief particulars of these projects are enclosed for reference—*Vide* annexures A and B.

There is a further potential of minor irrigation projects covering about 400 schemes comprising tanks and anicuts for irrigating about 30,000 acres and detailed investigations are awaited. The detailed schemes for M.I.P. have to be prepared by the Minor Irrigation Projects organisation. All these minor schemes may require about 7 T.M.Cft of water.

The proposed utilisation is, therefore, of the order of about 17 T.M.Cft.

F. *Deonur project in Andhra Pradesh* :

A report of the above scheme prepared by the Andhra Pradesh Government is also enclosed—*Vide* Annexure C.

It contemplated a storage of 33.6 T.M.Cft. and a probable utilisation of 50 T.M.Cft. (This information is informally obtained from proper source).

It is learnt that about 54,000 acres come under the waterspread area of the above project and much of the submergence is in the Mysore State only.

G. *The details of the causeways on the Manjira river in Bidar District are furnished in Annexure D.*

H. *Summary* :

Thus the total requirement of water in so far as the Mysore State is concerned, is, therefore, as under :

	T.M.Cft.
(1) Existing utilisation in Bidar District in Godavari valley	2.2
(2) Manjira Project	2.0
(3) Karanja Project	8.0
(4) Contemplated Minor Irrgation Schemes ..	7.0
(5) Water Supply Schemes	0.8
Total ..	20.0

On perusal of the yield assumed for the Deonur project, it transpires that if the share of the Mysore State in proportion to the catchment area is 20 T.M.Cft., then the share of the Bombay State will be approximately 35 T.M.Cft. In that case, it is doubtful whether Deonur project under contemplation in Andhra Pradesh will have any yield left to its share, at all.

ANNEXURE 'A'.

Note on Karanja Project.

Karanja river is a tributary of Manjira river which in turn is a major tributary of Godavari river. It takes its origin near Kohir (Andhra Pradesh) and after flowing for about 70 miles through the Taluks of Zahirabad (Andhra Pradesh), Bidar, Homnabad and Bhalki, joins its parent river Manjira at Nandi Sangam village of Bhalki Taluk. It crosses Hyderabad-Sholapur National Highway (No. 9) in its 57th mile.

Three sites for constructing a reservoir on this river were investigated by the erstwhile Hyderabad Government near Kamalapur, Balhalli and Masimadu (in Bhalki Taluk). Hydraulic particulars of the three sites are as follows :—

Sl. No.	*Particulars*	*Site No. 1*	*Site No. 2*	*Site No. 3*
1.	Catchment area ..	780 sq. miles	790	840
2.	Rainfall (at 75 per cent confidence limit) ..	23.80 inches	23.80 inches	23.80 inches
3.	Nature of C.A.	Good	Good	Good
4.	Dependable yield	8,090 M.Cft.	8,196	8,730
5.	Net commandable area	40,000 acres	40,000	20,000
6.	Maximum flood discharge ..	196,010 Cusecs (By Nawaz Jung's formula.	197,900	200,000
7.	Probable cost ..	1.34 crores	1.34 crores	1.34 crores

Annexure 'B'.

Note on Manjira Project (In Mysore State).

Manjira river is a major tributary of the Godavari. There is an existing project, on this river, *i.e.*, the Nizamsagar project, completed at a cost of Rs. 392.21 lakhs and intended to irrigate 2,75,000 acres and to generate 15,000 K.Ws. The site of this project is in Andhra Pradesh at a distance of 28 miles from the Mysore State boundary.

The length of the Manjira river in Mysore State as seen from the index map is about 50 miles having a zig-zag course. It flows through B.C. tract, having a bed fall of 1 foot per mile.

In the above reach of 50 miles in the Mysore State, there is one railway bridge on the Vikarabad-Purli line and a causeway on Zahirabad-Nanded road. These two masonry works are situated within one-third distance of the total length of the river in the State. In case the site of a reservoir is to be selected below these masonry works, the F.R.L. of the reservoir will have to be kept below the causeway on the Zahirabad-Nanded road which will result in a very small ayacut for irrigation. Hence the possibility of selecting a site below the railway line is ruled out.

Another site near Sonali and Wari about 2 miles above the railway line has got exposed trap disintegrated rock found in only one half of the bed and on the flanks there is deep B.C. soil, where hard foundations are expected to be met with at a depth of 20-25 feet. Moreover, a suitable basin for adequate storage is not available and the off-take channels will have to cross the railway line and Public Works Department road. In view of the rugged country, many cross-drainage works are involved. There is very little fall, with the result that sufficient ayacut will not be available. Many villages will get submerged and heavy damages caused to the fields on either bank.

The salient features of this site are as follows:

(1)	Catchment area	5,566 sq. miles
(2)	Nature of catchment	Average.
(3)	Monsoon rainfall of Bidar District	21.89 inches
(4)	Total yield	33,396 M.Cft.
(5)	Commandable area	28,290 acres
(6)	Irrigable area	19,000 acres
(7)	Requirement for irrigation (including evaporation and transmission losses)	7,000 M.Cft.
(8)	Available yield	8,350 M.Cft.
(9)	Percentage of available yield to total yield	25 per cent
(10)	Maximum flood discharge ..	6,40,000 Cusecs
(11)	Total cost of project including compensation for submerged lands and villages, etc.	237 lakhs
(12)	Anticipated revenue	2.34 lakhs

Thus it is seen that the total cost of the project is very high with only a small return of less than 1 per cent. The scheme, therefore, does not appear worthy of consideration.

A detailed report has been submitted to the Chief Engineer, Irrigation Projects, Munirabad, under this Office No. B.T./14/20472, dated 27th January 1959.

Annexure 'C'.

Note on Deonur Project.

1. *General*:

(i) The river Manjira, a tributary of river Godavari, rises in the Salaghat range of hills in Patada Taluk of Bhir District (Bombay State) and after flowing for a length of 440 miles through the Districts of Bidar and Medak and Nizamabad (A.P.), joins the parent river Godavari near Basar of Nanded District (Bombay).

The river flows for about 72 miles along a circuitous course in Medak District, assuming the form of almost a loop, the distance of the two ends of the loop-like course being about 18 miles. Further the drop between these two points is about 378 feet which readily lends itself as a source for power generation.

(ii) *Drainage area : Rainfall and Yield.*—The total drainage area is of the whole river 12,750 square miles with a dependable yield of 1.20 lakh M.Cft. The average rainfall is 35.54 inches and the maximum flow as realised in October 1954 is 4,26,000 cusecs.

(iii) *Existing works on the river* : Chanpur Anicut near Chanpur village in Medak District together with the Pocharam tank utilises about 3 per cent of the waters of the river Manjira, irrigating about 24,400 acres. The Nizamsagar reservoir across the river lower down is proposed to irrigate about 2,75,000 acres, utilising about 50 per cent of the river waters.

2. *Deonur Scheme* :

(i) *Site.*—It was during the investigations of river Manjira that a site near Deonur village in Medak District was found to be suitable for the construction of a dam to generate hydel power. This is exactly the same point where the circuitous course of the river forming a loop starts as pointed out above.

(ii) *Location.*—The site selected is 4 miles upstream of Deonur village. North latitude 17°-53′ and East longitude 77°-46′ in Medak District. The site is 80 miles from Hyderabad by road and nearest railway station is Metalkunta on the Hyderabad-Purli line of the Central Railway, at a distance of 18 miles from the site.

(iii) *Features* :—The scheme envisages

(*a*) The construction of a dam across the river Manjira at Baipalli village, Medak District.

(*b*) Construction of a power canal taking off from the left fore-shore of the reservoir and a power station on the canal in the 8th mile.

(*c*) Provision is also made in the working table of the Deonur reservoir to let down about 100 cusecs of water in the river so that it may be pumped up and diverted by the construction of a small overflow dam at a suitable place near Sangareddy. The water works department will take necessary action in this respect.

3. *Dam and Appurtenant works* :

The dam will be 12,800 feet long consisting of

		Feet
(1)	Earthen dam on the left flank	5,180
(2)	Gravity dam on the left flank	50
(3)	Ogee spillway with abutment in the river bed	870
(4)	Earthen dam on the right flank	6,700
	Total ..	12,800 feet

The dam will be 108 feet high above the lowest foundation level. The dam will have a roadway of 20 feet clear width on earthen portion and 14 feet between kerbs on the gravity and spillway portion.

The estimated maximum flood discharge from the catchment of 5,809 square miles at the site of the dam is 4,60,000 cusecs, calculated from Ali Nawaz Jung's formula, taking advantage of the flood absorbing capacity of the reservoir resulting from the difference of 2 feet between F.R.L. (1,754.50) and M.W.L. (1,756.50) the Ogee spillway has been designed to discharge 3,91,200 cusecs only, the balance flood being absorbed in the reservoir. The spillway is proposed to be provided with 12 gates of 60 × 25 feet over the crest and 7 scouring sluices 6 × 9 feet each in its body wall with sill level at R.L. 1,676.00.

The reservoir at F.R.L. 1,756.50 will have a gross storage capacity of 43,422 M.Cft. with a waterspread area of 84.97 square miles.

The head sluice consists of 5 vents of 6 × 10 feet each and located near Chindol village on the left fore-shore of the reservoir about 3 miles upstream of the dam.

The dam with its appurtenant works is estimated to cost Rs. 469.78 lakhs.

4. *Power Canal.*—The power canal taking off from the head sluice is fully lined and has a bed width of 16 feet, full supply depth of 10.5 feet with a carrying capacity of 1,500 cusecs throughout its length. The head race passes through a tunnel 3,500 feet long and falling through

a second tunnel about 23,800 feet in length. The canal finally empties itself into the Nizamsagar reservoir. The estimated cost of the power canal is Rs. 274.50 lakhs.

5. *Irrigation.*—Owing to the extra storage available by the construction of Deonur dam, it is possible to increase Tabi paddy area under the existing system of canal and distributaries of Nizamsagar project by about 24,500 acres.

6. *Cost of the project and financial returns.*—The estimated cost of the scheme is Rs. 950.49 lakhs. The net revenue expected is Rs. 25,832 lakhs from the 13th year after the commencement of the construction of the project. The total interest charges and the total capital outlay will be paid back by 19 years and 56 years, respectively. The project will ultimately fetch a return of 7.218 per cent after the 56th year.

7. *Programme of construction.*—It is proposed to complete the whole scheme in single phase extending over a period of eleven years. The dam with its appurtenant works is proposed to be completed in the first 5 years of the programme and the power canal together with the Hydel Station will be completed in 7 years beginning with the 5th year.

8. *Conclusion.*—The project with its potentialities to generate 25,860 (25,860) K.Ws. of power and bringing 34,500 acres of additional Tabi lands under irrigation will virtually prove to be a boon to this industrially backward area. No limit can be laid down to the variety of purposes for which the power will be in demand. In fact, consumption of power is an index of the advancement of the country in respect of civilisation and prosperity.

The scheme is in stages of finalisation.

SALIENT FEATURES OF DEONUR PROJECT.

1. *General Data—*

Location of the dam site ..	Lat.	12° 53′ N.
	Long.	77° 48′ E.

Situated near Deonur village in Narayankhed Taluk, Medak District.

2. *Hydrology—*

(1) Water spread area at dam site ..	5,808	sq. miles
(2) Mean annual rainfall in the water-spread	35.54	inches
(3) Mean annual run-off at dam site at present	53,792	T.M.Cft.
(4) Maximum flood discharge estimated	4,60,000	cusecs
(5) Observed minimum dry weather flow at Nizamsagar ..	60	cusecs

3. *Reservoir—*

Maximum water level	1756.50	
F.R.L.	1754.50	
Top of dam level	1763.50	
Gross storage capacity at F. R. L. ..	43,422	M.Cft.
Waterspread area at F.R.L. ..	8,497	sq. miles
Dead storage level	1731.50	
Dead storage capacity	9,773	M.Cft.
Storage	33,649	M.Cft.

4. *Spillway—*

Average height above foundation ..	74	feet
Average width of base	79.82	feet
River sluice sill elevation.. ..	1754.50	
Length of spillway	870	feet
Maximum flood discharge capacity of spillway	3,91,200	cusecs
Maximum flood discharge inclusive of flood observation provided ..	4,60,000	cusecs
Maximum height of dam.. ..	7.95	feet

5. *Power Plant—*

Size of unit—2 Nos.	15,000	K.V.
Capacity—2 Nos.	15,000	K.V.
Gross head for power	270	feet
Net head for power	250	feet
Firm power available	20,690	K.W.
Power generated at	25,860	K.W.

6. *Power Canal—*

Sill of the off-take channel ..	+1720.00	
P.S.C. Discharge	1,500	cusecs
	0.016	
Maximum	6,640	feet
Length of canal	13	miles
Length of tunnel (Head race) ..	3,500	feet
(Tail race) ..	25,800	feet

7. *Ayacut—*

Increased Tabi paddy irrigation under Nizamsagar canal ..	24,500	cusecs

Estimated cost—

Dam	.. ..	469.81 lakhs
Power Canal	.. ..	287.35 lakhs
Power	.. ..	202.88 lakhs
Total	..	960.04 lakhs
Return for the project	.. ..	7.05 per cent
Food grains	.. ..	18,000 Tons
Power	.. ..	181 M. Units per annum

Irrigable aspects:

Owing to the extra storage available by the construction of Deonur Dam, it is possible to irrigate the Tabi paddy area under the existing system of canal and distributaries by Nizamsagar project by about 24,500 acres.

Water supply to Hyderabad:

To let down 3,159 M.Cft. of water in the river during 12 months so that it may be pumped up and diverted by construction of small overflow dam at suitable place.

ANNEXURE 'D'.

Salient features of Causeway across Manjira River on Zahirabad-Nanded Road

1.	Location	Mile 45/6 of Zahirabad-Nanded Road.
2.	Ventway	14 vents of 20 feet span.
3.	Catchment area	5,675 sq. miles.
4.	Crest level	+1,762.05.
5.	Lowest bed level	+1,733.99.
6.	H.F.L.	+1,777.46.
7.	Flood discharge	2,31,000.00 cusecs.
8.	As per Ali Nawaz Jung Formula	3,75,690.00 cusecs.
9.	Length of water spread at crest level is from chain 12.6 to 17.6	5 chains.
10.	Length of waterspread at H.F.L. is from chain 4.5 to chain 26.00	21.50 chains.
11.	Width of river	330 feet.
12.	Bedfall of river	28,776 feet per mile.
13.	Velocity is 8.21 per sec. at R.L.	+1,758.85.
14.	Unobstructed flood area is ..	7,967.34 sq. feet.
15.	The water way provided in the causeway above R.L.+1,734.00 is	6,098.12 sq. feet.

(vi) Proceedings of the Meetings of the Ad-Hoc Committee.

Proceedings of the First Meeting of the Ad-Hoc Committee for reviewing Inter-State Agreements held on 28th March 1959 at 8-30 a.m.

Present.

1. Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer. — Chairman.
2. Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects. — Member.
3. Sri C. S. Bhimasenachar, B.E., Assistant Engineer. — Asst. Secretary.

The Chief Engineer (General) of Mysore, the Chief Engineer, Minor Irrigation and Public Health, and Sri K. Padmanabhan, Ex-Officio Secretary, could not be present as they had to attend the budget meeting in the Assembly.

1. The Government Order constituting the Committee was read and recorded.

2. *Scope of the Committee.*—A statement got up by the Secretary furnishing a list of agreements and other pending questions to be dealt with by the Committee was circulated.

3 & 4. The note from the Central Water and Power Commission, regarding the sharing of Krishna waters and the preliminary note by the Chairman regarding the quantity Mysore is entitled to were next taken up. It was seen from the note from the Central Water and Power Commission that out of the total quantity of 1,744.5 T.M.Cft. of the average annual yield in Krishna basin the new Mysore State was allocated 278.1 T.M.Cft. for the projects existing and under construction and 220 T.M.Cft. for future projects undertaken after 1951. Against this total quantity of 278.1+220=498.1 T.M.Cft., it was explained by the Chairman in his note that Mysore would be entitled to a quantity of 282.6 T.M.Cft. for existing irrigation and projects and 318 T.M.Cft. for future projects or a total of 600.6 T.M.Cft., the share of the Koyna waters being considered separately.

The Chief Engineer, Irrigation Projects, stated that a a note on the allocation of waters in Krishna basin had already been drawn up in his office and this note proposed a quantity of 650.73 M.Cft. as being the share of Mysore. It was seen from the note that this share included about 46.48 M.Cft. as being the lift irrigation part of Koyna. The Chairman stated that Mysore is entitled to the share of Koyna waters as per original Bombay project and the same could be utilised in Mysore by lift irrigation or any other means. If this figure of 46.48 M.Cft. is also taken into consideration, the total would be about the same in both the cases. Though the Koyna waters may not be considered to have been included in the allocaton, all the same, Mysore is entitled for its share as per original Bombay project. Further, this quantity of 46.48 T.M.Cft. being the share of Koyna waters due to Mysore has to be specifically mentioned in the statement of total flows assessed as Mysore's share in the allocation of Krishna waters.

As regards the total flow of 1,744.5 T.M.Cft. estimated in the Krishna Basin, the Chief Engineer, Irrigation Projects, stated that the figure appeared to be rather low and we can expect some more quantity. The basis on which this figure is arrived at requires necessary modification. The Chairman explained that the average flow at Vijayawada anicut for 51 years works out to 1951 T.M.Cft. and since this quantity is available only in 21 years out of 54 years, 1,715 T.M.Cft. is taken by the Khosla Committee (1951) which is the dependable flow for 44 years. It was agreed that the question of increasing the dependable flow could be taken up during further negotiations and that the failures may be allowed from 15 to 20 per cent taking more lean years, if necessary.

In respect of the allocation for different projects, the Central Water and Power Commission had taken into consideration only the projects sanctioned and under consideration in the State. The Chairman stated that due to various difficulties, Mysore State could not go ahead with the investigation for new projects and that the State should not be deprived of its legitimate share on this account. One disadvantage in the present method of allocation is that the Upper States are entitled for a limited quantity while the lowermost States would get

all the extra flows. The newly integrated areas of Mysore are very much lacking in irrigation and consequently she should get more.

It was also seen that the allocation proposed for the various projects differed slightly in the two statements. It was agreed that this should be verified and the correct figures in respect of all the projects under execution and contemplation should be obtained early.

5. *General procedure to be followed and order of priority of subjects.*—It was agreed that the priority of discussions in respect of the several agreements should be as follows :—

(1) Sharing of Krishna waters—This includes Tungabhadra also.

(2) 1924 Agreement relating to Cauvery basin.

(3) Other agreements.

6. *Estimate relating to the cost of establishment and expenditure in connection with the meetings of the Committee, etc.*—It was agreed to send up the estimate for sanction of Government.

7. *Collection of Statistics and preparation of maps.*—The Chief Engineer, Irrigation Projects, promised to give all necessary help in this behalf. He also agreed to see that a Policy Size Typewriter required by the Committee is made available early.

8. The Chairman stated that as the Committee had to complete the work within a short period, it would be necessary to hold meetings at as short intervals as possible and that he would fix up Monday of every week for the meeting and if Monday happens to be a holiday, the next working day.

This was agreed to.

Proceedings of the second meeting of the Ad-Hoc Committee for reviewing Inter-State Agreements held on Monday the 6th April 1959 at 9 a.m.

Present.

1. Sri H. Ananthachar, B.E., A.M.I.E.,
Retired Chief Engineer. Chairman.

2. Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health. — Member.

3. Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects. — Member.

4. Sri K. Padmanabhan, B.E., Under Secretary to Government, Public Works Department. — Secretary.

5. Sri C. S. Bhimasenachar, B.E., Assistant Engineer. — Asst. Secretary.

The Chief Engineer (General) of Mysore was not present as he was on tour.

1. *Continuation of discussions on the sharing of Krishna waters.*—The revised note drawn up by the Chairman was taken up for discussion. This note included slight changes in the utilisation for some of the projects as per statement furnished by the Chief Engineer, Irrigation Projects. The Chairman also furnished a general analysis of allocation as finally worked out, the details being briefly as follows :—

(1) Existing utilisation	279.0	T.M.Cft.
(2) For future projects to be undertaken after 1951	410.1	„
Total ..	689.1	T.M.Cft.

as against 278.1+220=498.1 T.M.Cft. of the Central Water and Power Commission.

The Chairman stated that the Khosla award had taken into account only proportional allocation based on the total projects sponsored by each State and furnished to the Committee during 1951. According to this, the total quantity required was 1940.5 T.M.Cft. against 1000 T.M.Cft. available and hence the award was made proportionately to the quantity available in relation to the total demand made by each State. The integrated areas of Bombay and Hyderabad are very much lacking in irrigation facilities though there is sufficient water potential and this fact has been kept in view while preparing the present statements. At the same time, care has been taken to see that the projects

in other State already in execution are not affected. After integration it took some time to settle down and our projects are now more or less ready. They only require technical clearance by the Central Water and Power Commission. In fact, the Ghataprabha II Stage should have been started already under the Second Plan were it not for the fact that it has not yet received the technical clearance of the Central Power and Water Commission, and hence the project could not be started.

The Chief Engineer, Irrigation and Public Health, stated that we should include all possible projects and not leave out any, merely on the grounds that they were not included previously.

As regards the Tungabhadra project, the Chairman stated that a total of 160.5 T.M.Cft. would be the share of Mysore State. As 65 T.M.Cft. had been previously allocated to the Hyderabad side canal, he had made now a balance provision of 45 T.M.Cft. due, *i.e.*, 10 T.M.Cft. extra, as against 35 T.M.Cft. proposed by the Central Water and Power Commission.

The question of inclusion of Varada Scheme was next discussed. The Chief Engineer, Irrigation Projects, stated that it was proposed to utilise 20,000 M.Cft. and irrigate 1,00,000 acres at a cost of Rs. 11.5 crores, but full details of the projects were not available. The Chairman stated that the feasibility of such a big project was doubtful particularly as there were several schemes higher up in the valley. Further, this valley formed part of Tungabhadra basin and the scheme could be included under the Mysore allocation of 20 T.M.Cft. to the extent possible.

The statements were next reviewed one by one and the following small additions and alterations were suggested.

Statement No. IV.—It was explained by the Chairman that 46 T.M.Cft. had been retained in the statement as Mysore's share of Koyna waters and that this was intended for irrigation in Bijapur District. The original proposal was to have lift irrigation with power supplied from Koyna but after the transfer of Bijapur District to Mysore, no power would be available from that project. Further the lift irrigation project as envisaged was very costly and alternative methods have now to be found

for utilising the Mysore share of waters in Bijapur District. The Chief Engineer, Irrigation Projects, stated that in case this quantity could not be fully utilised for irrigation in Bijapur District, it could be used for other areas in Krishna basin.

At this stage the Secretary explained that the Bombay State had earmarked a quantity of 12,000 M.Cft. for irrigation under the Koyna project in the Bombay area, and that their present proposal was to irrigate only 7,000 acres. It was impressed by him that some share out of this 12,000 M.Cft also should be available to Mysore over and above the 46,000 M.Cft. and the exact quantity to be determined by collecting further statistics. It was agreed that Mysore's claim on this share, *viz.*, 12,000 M.Cft. should also be pressed forth in their negotiations with the Bombay Government.

The utilisation under Malaprabha project was agreed to be changed from 27 T.M.Cft. to 32 T.M.Cft. as per the figure furnished by the Chief Engineer, Irrigation Projects. With this change the total under statement No. IV (future utilisation after 1951) now comes to 415.1 T.M.Cft. as against 410.1 T.M.Cft. originally provided. The total share of Mysore including existing utilisation of 279.0 T.M.Cft. thus comes to 694.1 T.M.Cft. as per the final figures worked out.

At this stage a doubt was raised as to what the position would be if as a result of further examination the total dependable flow in Krishna basin was found to be more than 1,745 T.M.Cft. The Chairman made it clear that any quantity above this should be shared proportionately by all the three States.

The Chairman stated that an immediate reply was due to the Central Water and Power Commission on the sharing of Krishna waters and as it would take some time for drawing up the final report on all the agreements an *ad-interim* reply could be sent to Government.

It was resolved that an interim report may be sent up to Government based on the revised statements after effecting necessary changes indicated during the discussions.

3. *Government order constituting the Committee.*— The Secretary brought to the notice of the Committee that the Government Order required slight modification in view of the recent changes in the set up at the Chief Engineer's level. It was agreed to address Government to modify the Government order to include the Chief Engineer, Irrigation projects, and the Chief Engineer, Irrigation and Public Health, in place of the Chief Engineers, Major Irrigation, North and South, the Chief Engineer (General) being continued as before.

The Secretary also suggested that the presence of the Chief Engineer, Sharavathy Valley Project, and the Chief Engineer, Hydro-Electric Construction Projects, would be required when questions relating to Moyar Scheme and Jog Power Scheme come up for discussion. It was agreed that the two Chief Engineers may be invited to attend the meetings whenever these subjects come up for discussions.

4. *Estimate relating to the cost of establishment and other expenditure of the Committee.*—The Secretary explained that specific sanction of Government was necessary for purchase of stationery and other articles required by the Committee and also to meet the printing charges, etc. As regards the duty allowance to the staff, the Chairman stated that an allowance of 20 per cent may be recommended to the Assistant Secretary and the Non-Gazetted staff as the work involved was of an arduous nature. It was finally agreed to send up the estimate for sanction with specific provisions of duty allowance against each officer and official.

5. The proceedings of the first meeting were taken as confirmed subject to the slight changes already indicated.

6. Before concluding the meeting, the Chairman stated that a report on the allocation of Godavari waters was also to be sent up early and as Manjira was the only tributory to Godavari flowing in this State, details of flow in this river, existing irrgation and projects proposed, etc., were required urgently. The Chief Engineer, Irrigation Projects, agreed to furnish all the available statistics.

It was also suggested that the Chief Engineer, Irrigation Projects, may obtain the details of the Deonur Project in the Andhra Pradesh across the Manjira river,

about 16 miles lower down the Mysore border, so that an assessment of the potential of the river at Mysore border may be made.

The Chairman also stated that the Cauvery Valley Agreement will have to be taken up by the Committee and requested that a detailed note on the subject may be arranged to be put up by the Chief Engineer, Irrigation Projects. The Chief Engineer, Irrigation Projects, agreed to furnish the note with necessary details.

Proceedings of the Third Meeting of the Ad-Hoc Committee for reviewing Inter-State Agreements of river valleys held in the Chambers of the Chief Engineer (General), on Monday the 13th April 1959 at 9 a.m.

Present.

1.	Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer.	Chairman.
2.	Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health.	Member.
3.	Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects.	Member.
4.	Sri K. Padmanabhan, B.E., Under Secretary to Government, Public Works Department.	Secretary.
5.	Sri C. S. Bhimasenachar, B.E., Assistant Engineer.	Asst. Secretary.

Sri H. Channaiah, B.E., Executive Engineer, Krishnaraja Sagar Division, was also present, on invitation.

The Chief Engineer (General), was not present as he was on tour.

1. *Confirmation of the proceedings of the second meeting held on 6th April* 1959.—The proceedings of the second meeting, copies of which had been furnished to the Members, were confirmed.

2. *Position of Kollegal and Coorg in the new reorganised Mysore State with reference to Cauvery Valley Agreement.*—The Chairman briefly explained the background of the 1924 Cauvery Agreement according to which

Mysore had guaranteed certain limit flows to Madras during the irrigation season from June to January. When Mysore wanted to take up the construction of Krishnarajasagar Reservoir, the Madras Government gave their consent only for the first stage of the project, *viz.*, up to plus 80 feet, to store 10,000 M.Cft. for power purposes. They refused to give consent for the second stage to store water for irrigation on the grounds that they being the lower riparian raiyats were entitled for the flow in the river according to the law of prescriptive rights. A Court of Arbitration was set up by the Government of India to go into the question, presided over by Sir H. D. Griffins who was assisted by an expert Engineer Mr. Nethersole as the Assessor. This Court, after examining the details of flow in the river and the existing irrigation on either side gave an award that Madras was entitled to certain limit gauges at the upper anicut. The Madras Government made an appeal to the Secretary of State against the award which was upheld by him and Mysore had to enter into fresh negotiations with Madras. After long negotiations and after an arbitration, the 1924 Agreement was concluded. According to this agreement, Mysore is permitted to develop 1,25,000 acres under the Krishnarajasagar Reservoir and an additional extent of one-third of the area actually irrigated under the channels already existing in the Cauvery basin in or prior to 1910 by improvement of duty. The future extensions of irrigation with additional reservoirs in the Cauvery basin for Mysore has been limited to 1,10,000 acres. In the case of Madras, the agreement limits the new irrigation under the Cauvery-Mettur project of Madras to 3,01,000 acres under Grand Anicut Canal and Vadavar extension, in addition to the extension of irrigation by improvement of duty. The agreement also permits Madras Government to construct new irrigation works on the tributories of Cauvery in their territory, and as an offset, permits Mysore to construct a storage reservoir of 60 per cent of the capacity on one of the tributories of Cauvery in Mysore. It also lays down that the division of surplus waters between the two States is to be considered after the expiry of 50 years from the date of the agreement, that is to say, after 1974.

The Chief Engineer, Irrigation and Public Health, enquired whether in view of the fact that Madras had now constructed the Mettur reservoir wherein they could

hold the flood waters and regulate supplies, it would still be necessary to adhere to the limit flows.

The Chairman stated that the limit gauges had been fixed as the prescriptive right of Madras and permission to construct the Mettur Reservoir had also been conceded in the agreement.

The Chief Engineer, Irrigation and Public Health, stated that this meant that we had no control over Madras for the utilisation of the river flows. The Chairman stated that the position in the case of Cauvery valley was very peculiar. Unlike Krishna and Godavari rivers, the surplus available in Cauvery river was very little. Nearly 23 lakhs of acres are under irrigation in the Cauvery basin utilising nearly 90 per cent of the flows. Irrigation had developed in the Cauvery basin from the past several centuries and even during 1910 the irrigated area was so high that Mysore found it difficult to secure permission to construct Krishnarajasagara Reservoir. At one stage of the negotiations, it looked as though even this scheme was in a melting pot and it was an uphill task for Mysore to conclude the existing agreement.

The note prepared by the Chairman on the position of Kollegal and Coorg in the new Re-organised Mysore State with reference to the 1924 Agreement was then read, the main points brought out in the note being briefly as follows :—

(1) Under the 1924 agreement, Mysore had guaranteed certain limit flows to Madras. Any interference with the normal flows in the river will vitiate these limit discharges and if Coorg has to take up fresh projects it should be done in such a way that the limit flows are not affected. The impounding in Coorg reservoirs should, therefore, be done during the surplussing days of Krishnarajasagara or the Coorg reservoirs and Krishnarajasagara should be worked to impound water over the limit flows.

(2) As regards Kollegal area, the Madras Government have sponsored certain schemes there, after assuring themselves that the projects will not affect their lower irrigation and these projects would have been implemented if Kollegal had remained part of Madras. Mysore as successor State can, therefore, proceed with the implementation of these projects without materially altering

the proposals regarding the utilisation of water and area irrigated, etc. If there are possibilities of revising some of these projects contemplated by Madras for greater utilisation of the benefits and if the projects are so revised, the excess area may be counted against the 1,10,000 acres for which Mysore is entitled under the additional reservoirs.

The Chief Engineer, Irrigation Projects, stated that Coorg was outside the purview of 1924 Agreement and the implications of limit flows for impounding, etc., need not be brought into the picture. He also emphasised that he was of the view that for the irrigation of 1,10,000 acres for which Mysore is entitled, the natural flows in the river could be utilised and the question of impounding limits, etc., does not arise.

The Secretary pointed out that Clause 10(viii) of the agreement required that the extensions of irrigations should be only by means of reservoirs, the impounding in such reservoirs being under certain conditions and similar to Krishnarajasagar so as not to affect the limit gauges already accepted.

The Chairman added that throughout the negotiations with Madras, emphasis was laid on the limit flows as being the prescriptive right of Madras and what applied to Mysore would also apply to Coorg. Further, the interception of normal flows would affect the existing irrigation above Krishnarajasagar reservoir in Mysore also and it is on this account that Mysore had previously opposed the proposed Lakshmanathirtha reservoir by the then Coorg Government. He also suggested to the Chief Engineer, Irrigation Projects, to examine the position in the case of the proposed Harangi reservoir in Coorg and to work out a typical case to show that impounding can be done in the reservoir without affecting the lower irrigation and storage in Krishnarajasagar.

As regards Kollegal Taluk, it was agreed that the schemes could be implemented without reference to Madras Government, and if there are any projects requiring revision in order to secure more benefits of utilisation, the extra area in such cases may be counted against 1,10,000 acres permitted under Additional Reservoirs.

Proceedings of the Fourth Meeting of the Ad-Hoc Committee for reviewing Inter-State Agreements of River Valleys held on 23rd April 1959 at 9 a.m.

Present.

1.	Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer.	Chairman.
2.	Sri G. S. Ganapathy, C.E., Chief Engineer (General).	Member.
3.	Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health.	Member.
4.	Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects.	Member.
5.	Sri K. Padmanabhan, B.E., Under Secretary to Government, P. W. D.	Secretary.
6.	Sri C. S. Bhimasenachar, B.E., Assistant Engineer.	Asst. Secretary.

1. *Confirmation of the proceedings of the third Meeting.*—The proceedings of the third meeting were confirmed with slight corrections pointed out by the Secretary in respect of the scope of the 1924 agreement and allied matters. As regards Kollegal Taluk, it was agreed that the schemes could be implemented without reference to Madras Government and if there are any projects requiring revision in order to secure more benefits of utilisation the extra area in such cases may be counted against 1,10,000 acres permitted under Additional Reservoirs.

2. *Cauvery Valley Agreement of* 1924.—The Chairman's note on the agreement was taken up for consideration. This note, while giving a brief account of the negotiations leading to the agreement, explained the unfavourable conditions in which Mysore was placed at the time of the agreement and how this State which had taken up the construction of the Krishnarajasagar Reservoir at great risk investing a heavy capital on it, had to conclude an agreement to make the scheme final and absolute. The note also explained the relevant clauses of the agreement,

the action taken by both Mysore and Madras Governments in the matter of development of irrigation in their respective areas and the prospects of future irrigation in Mysore State within the scope of the agreement. While Madras had completed the Mettur, Bhavani and Amaravathi Reservoirs and also certain schemes outside the purview of the agreement, Mysore was only able to complete Krishnarajasagar project and to take up the Kabbini reservoir scheme just now. Under the terms of the agreement, Mysore was entitled to develop 1,10,000 acres with additional reservoirs of capacity 45,000 M.Cft., but due to the restrictions on the method of impounding, it was found that the average impoundable quantities available was only 25,000 M.Cft. over the Krishnarajasagar impoundings. Even this was an average figure, there being no impounding in six years and the quantity being less than 15,000 M.Cft. in three years out of a period of 24 years. With these limitations, the prospects of irrigation in Mysore side were not very bright and only two additional reservoirs, *viz.*, the Hemavathi Reservoir scheme and the Harangi Reservoir scheme were found feasible, the Kabbini Reservoir being considered as an off-set reservoir against the Bhavani project. The note concluded with several recommendations for securing additional supplies and suggestions for implementing the schemes on the Mysore side.

The Chief Engineer, Irrigation and Public Health, stated that from a study of the recommendations, it looked as though we are asking only for small concessions. He stated that when the agreement was concluded, Mysore was in a subordinate position and now that we have equal status with Madras, we can ask for a total revision of the agreement with the necessary alterations.

The Chief Engineer (General) stated that the previous history of the case would not be of any use at present and that we must take into consideration the existing facts and give concrete suggestions for any modification that may be necessary in the agreement.

The Chairman replied that his note explained the present position and whatever concrete suggestions the Members gave would be examined. If the suggestion is that the agreement is to be totally revised, it is necessary to indicate the exact lines on which this has to be done and justify the same.

The Chief Engineer, Irrigation and Public Health, stated that we could proceed on the lines that the whole agreement was entered into under duress. The method of impounding should be changed so as to allow us to develop 1,10,000 acres. The lower State, *i.e.*, Madras can have a reservoir, if necessary, for regulation of their supplies and the whole flow in the river properly apportioned between the two States as in the case of Krishna basin.

The Chairman pointed out that the case of Krishna basin was different as the irrigation developed there was small compared to the total yield in the basin. In the Cauvery basin the area developed is very high and the available quantity comparatively small. The agreement so far entered into permits only the tapping of the surplus waters for additional irrigation on both sides. Madras has developed a large extent on their side while Mysore is still lagging behind.

The Secretary pointed out that projects for developing the entire extent of 1,10,000 acres permissible under Additional Reservoirs cannot be found with the restrictions imposed by the agreement and such projects were not ready.

The Chairman stated that on our side we have also been trying to take up the projects and the surveys were done as far back as in 1933-34. But due to several difficulties such as the hilly nature of the country, the limited command available, etc., the few projects that were investigated were found uneconomical and could not be pushed through.

The Chief Engineer, Irrigation Projects, stated that all the projects so far got up provided for impounding as per the rules of regulation of Krishnarajasagar and hence they were found not practicable. He was of the view that the natural flows in the river could be intercepted and utilised for irrigation under the Additional Reservoirs. His idea was that small storages could be had to supplement the natural flows during the periods of low supplies in the river, in which case, the projects would become economical and feasible. He was, therefore, of the view that as already stated due to restriction on the method of impounding, it was found that the impoundable quantities

available were only 25,000 M.Cft. over Krishnarajasagara impoundings (against 45,000 M.Cft. permitted) and as Mysore is entitled for an irrigation of 1,10,000 acres, it is incumbent on Mysore to draw all the waters required for irrigation of this extent by drawing the water above Krishnarajasagara Reservoir and also store certain quantity of water required for utilisation when the natural flow is much below the requirements of lower irrigation.

The Chairman stated that the interception of normal flows in the river would bring in several working difficulties. The Secretary supplemented this by saying that during the monsoon season, *i.e.*, 28th May to 28th January of the next year (which is the Calendar as per 1924 agreement), interception of natural flows on non-impounding days was not permissible, and such interceptions would be against the very fundamental basis on which the terms of the 1924 agreement had been based. The Chairman further stated that apart from the prescriptive rights of the delta irrigation in Madras for the normal flow in the river, there was a large extent of our own irrigation under the anicut channels and the irrigation under Krishnarajasagara was also to be safeguarded and that it would be difficult to evolve a suitable method of impounding in the higher reservoirs without affecting the Krishnarajasagara storage.

The Chief Engineer (General) pointed out that any case referred to the Central Government is likely to be viewed from a different angle keeping in view the interest of the country as a whole and that we should remember that we are parties of the same Union and whatever case we present should conform to this ideal.

The recommendations made by the Chairman regarding the case for waiving of compensation water and modifications necessary in the rules of regulation of Krishnarajasagara to take credit of water that drains into Cauvery and Shimsha rivers from the Visvesvaraya Canal tract and the recommendation to treat the total area under improvement of duty as one unit and not each channel separately and the setting up of an Irrigation Statistics Office at Trichy or Tanjore were agreed to. It was also noted that about 5,000 M.Cft. could be saved in the

reservoir. It was also agreed to take action on the following points:—

(1) To address the Madras Government for permitting Mysore Government for an advance impounding of 5,000 to 10,000 M.Cft. in June and July to bring the reservoir level to plus 90.

(2) To fix up the place of measurement of 900 cusecs at a point below the confluence of Cauvery and Shimsha rivers.

(3) Full details of Bhavani Reservoir with working tables to be got.

(4) The Kattalai High Level Canal Scheme, Pullambadi Scheme and Mettur High Level Canal Scheme being not covered by the agreement, there is a *prima facie* case for an infringement of agreement and correspondence may be started with Madras and the Government of India in the matter.

(5) Madras has to furnish full statistics of irrigation developed, old and new, up to date.

As regards the method of impounding in the Additional Reservoirs for which different suggestions were made, the Secretary stated that the difficulties involved would be apparent if one particular case, say Harangi or Hemavathi reservoir, is taken up and details of impounding and draw off are worked out, whether according to the conditions laid down in Clause 10(vii) of the agreement or according to the interception of the natural flow itself, which, however, would definitely be out of the question, and keeping in view the requirements of our own lower irrigation. The Chief Engineer, Irrigation and Public Health, and the Chief Engineer, Irrigation Projects, were requested to examine this and furnish a note, if they have any further suggestions to give.

3. *Agreement of* 1944 *between the Mysore and Madras Governments regarding Lakkavalli Reservoir (now termed Bhadra Reservoir)*:—The Chairman's note on the subject indicated that in order to make the fullest use of the supplies in the Lakkavalli storage for power, it would be necessary to carry forward the balance in good

years to lean years. Since the agreement previously concluded between Mysore and Madras Governments requires the additional storage for power made in one year to be passed down the same year, this restriction has to be removed and the agreement requires necessary modification. When the final agreement in the sharing of Krishna waters is entered into, the pre-Mysore Lakkavalli agreement may form a subsidiary annexure with the restrictions noted in the above paragraph removed.

This was agreed to.

4. *Agreement regarding sharing of waters in Tungabhadra High Level Canal between Mysore and Andhra Governments.*—The Chairman's note explained that the final decision on this question was that the waters of Tungabhadra High Level Canal should be shared by the Mysore and Andhra Governments in the ratio of 35 : 65 and that the agreement may stand.

This was agreed to.

5. *Agreement regarding the Palar water dispute between the Governments of Mysore and Madras.*—The recommendation made by the Chairman in his note that the matter may be treated as closed in view of the conclusions arrived at at the joint conference of the Chief Engineers of Mysore and Madras with the Representatives of the Central Water and Power Commission was agreed to.

6. *Bhairavanthippa Project of the Andhra State.*—The Chairman's note indicated that a Conference was held at Bangalore in July 1954 between the representatives of the Government of Mysore and Andhra and agreement was reached on the various points. These have to be ratified early and the agreement should also include the construction of a bridge in Mysore limits over the valley on the back waters of the reservoir and to safeguard the existing irrigation in Mysore State (Bellary District) below Bhairavanthippa project.

This was agreed to.

Proceedings of the Fifth Meeting of the Ad-Hoc Committee for reviewing Inter-State Agreements of River Valleys held on 4th May 1959 at 9 a.m.

Present:

1.	Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer.	Chairman.
2.	Sri G. S. Ganapathy, C.E., Chief Engineer (General).	Member.
3.	Sri M. H. Manchigiah, B.E., A.M.I.E., Chief Engineer, Irrigation and Public Health.	Member.
4.	Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects.	Member.
5.	Sri K. Padmanabhan, B.E., Under Secretary to Government, P. W. D.	Secretary.
6.	Sri C. S. Bhimasenachar, B.E., Assistant Engineer.	Asst. Secretary.

Subject No. 1—Confirmation of the proceedings of the fourth meeting.—The proceedings were confirmed with slight corrections pointed out by the Chief Engineer, Irrigation and Public Health, and the Chief Engineer, Irrigation Projects. The Chief Engineer, Irrigation and Public Health, also pointed out that the agreement in respect of the Bhairavanthippa project should include a provision for safeguarding the existing irrigation in Mysore State (Bellary District) below the project.

The Chief Engineer, Irrigation Projects, stated that in connection with his suggestions for the method of impounding (Page 3 and 4), the following para should be inserted :—

"He was, therefore, of the view that as already stated, due to the restrictions on the method of impounding, it was found that the average impoundable quantities available was only 25,000 M.C.ft. over Krishnarajasgara impoundings. As Mysore is entitled for an irrigation of 1,10,000 acres, it is incumbent on Mysore to draw all the water required for irrigation of this extent (by drawing

the water above Krishnarajasagara reservoir) and also store certain quantity of water required for utilisation when the natural flow is much below the requirements of lower irrigation."

Subject No. 2—Agreement relating to the construction of an anicut across Southehalla—Cauvery basin to feed Konanur Tank.—The Chairman stated that this agreement was intended to safeguard the interests of irrigation under Sirangala anicut belonging to the old Coorg Province if the feeder channel to Konanur tank contemplated was to be opened out. Now that Coorg has become part of New Mysore State, there is no necessity for any agreement. The feeder channel to Konanur tank can be opened out keeping in view the interests of lower irrigation and arranging regulation of water so as not to affect the irrigation under Sirangala anicut.

This was agreed to.

Subject No. 3—Hebbahalla project of Madras in Suvarnavathy basin, Kollegal Taluk.—This anicut is constructed across a minor stream in Kollegal Taluk which joins the Suvarnavathy river. There was some correspondence with Madras Government in connection with the construction of this anicut and the Chief Engineer, Madras, had agreed not to interfere with the natural supplies in the halla during the summer period. This was necessary in view of the fact that the Suvarnavathy flow contributes partially to the supply of 900 cusecs in the Cauvery river to be maintained at Sivasamudram. The Chairman's note indicated that as Kollegal has now become part of Mysore, any regulation of supplies in the Hebbahalla can be done by the concerned Executive Engineer and there is no necessity for further pursuit of the question.

This was agreed to.

Subject No. 4—Irrigation—Ananthapur District, Madakasira Taluk—Raising of waste weir of Maddalur Tank, Mysore State.—The Chairman's note clearly explained that the raising of one of the weirs of Madalur tank by one foot did not affect the lands at M.W.L. as the lengths of the weirs were suitably increased and there was no case for complaint by Andhra State.

The Secretary stated that the complaint was that there was some submersion of lands in Haladi village and that this will have to be fixed up after joint inspection.

The Chairman stated that in the absence of original plans, etc., no surveys would give the exact position existing at the time of original construction of the tank and that the calculations of discharge clearly showed that there was no increase in the height of spillage. The Chief Engineers of Andhra and Mysore could discuss this and come to a settlement.

This was agreed to.

Subject No. 5—Pennar Kumudvathi project of Andhra State.—The Chairman's note indicated that this agreement relating to the construction of an anicut across the Pennar below the confluence of Kumudvathi sponsored by the composite Madras State has been under consideration since 1938. The draft agreement got up by Madras was modified by the Mysore Chief Engineer, but the Andhra Government have not accepted the modified agreement. The main modification in the agreement is the provision for construction of anicuts and grade walls of suitable height to ensure water to the 13 tanks in Mysore territory and the Chief Engineer, Andhra State, has since agreed to this. The other question to be settled is the adoption of a simplified form of regulation. The Chief Engineers of Mysore and Andhra can have further discussion and arrive at a decision in the matter, after which the agreement could be re-drafted for acceptance by both the States.

This was agreed to.

Subject No. 6—Irrigation—Ananthapur District—Thammadapally tank—Alleged interception of supplies.—As explained in the Chairman's note, the subject pertains to the alleged interception of supplies in Thammadapally tank in Ananthapur District by the restoration of certain Kattes in Pavagada Taluk. The matter is under correspondence since 1931. The contention of Mysore is that the diminution in supplies is due to the anicut across Royar Halla put up by Madras Government. After joint inspection by the officers of both Governments, Mysore

has agreed to remove a few Kattes though these Kattes played a very insignificant part. Being an insignificant issue, the findings of 1949 Joint Inspection could be concluded. But in the light of the recent Inter-State Conference at Hyderabad during February 1959, when this subject had also come up, and as per decision arrived at, a fresh joint inspection to take stock of the latest position may be done and the Chief Engineers of the two States may conclude the agreement.

Subject No. 7—Allocation of Godavari Waters.—This subject was next taken up. The Chairman's note on the subject explained that the Bidar District of Mysore State formed part of Godavari basin. Two tributaries of Godavari, *viz.*, Manjira and Karanja, were flowing in this District, covering an area of 1,850 sq. miles (against the total drainage area of 1,16,300 sq. miles of Godavari river) and Mysore is entitled for a share of these waters. The note furnished by the Chief Engineer, Irrigation Projects, indicated that out of the total yield of 60 T.M.C.ft. in the two rivers in both Mysore and Bombay States higher up, the proportionate yield of Mysore catchment is about 18.6 T.M.C.ft. and Mysore would require 20 T.M.C.ft. for existing utilisation and future projects (major and minor) in Bidar District which is a backward District, having no irrigation facilities. It was accordingly agreed to recommend a quantity of 20 T.M.C.ft. as Mysore's share of Godavari waters.

As regards Deonur Project across Manjira river below Mysore border, it was explained by the Chairman that with the allocation now worked out by Mysore and the probable demand by Bombay also higher up, there may not be enough storage available for this project. The Central Water and Power Commission and the Planning Commission have to be informed that the project as now proposed by Andhra Pradesh cannot be sanctioned and has to be revised and reviewed in the light of the allocation of waters made to the upper States of Bombay and Mysore. Further, the project submerges a major portion of lands in Bidar District and Mysore strongly objects to this.

The Chief Engineer, Irrigation Projects, enquired whether we cannot simply ask for our share of waters and leave it at that.

The Secretary pointed out that the Deonur Project was included in the Central Water and Power Commission memorandum on the sharing of Godavari waters sent to us and it is necessary to bring the full implications of the project to the notice of the Commission.

The Chairman stated that *prima facie* the project got up by Andhra Pradesh will have to be revised and that the view of the Committee that the Andhra Pradesh should not take up the project without consulting Mysore will have to be expressed.

This was agreed to.

Subject No. 8—Krishnarajasagar Reservoir—Note on the Proportion Factor for the month of September.—The Chairman stated that as explained in his note, the proportion factor for the month of September was 0.625 while that for the month of October was 0.3. As September month was the transition period from South-West to North-East Monsoon, the change should be gradual and not sudden. It, therefore, stands to reason that the proportion factor should be somewhere between 0.625 and 0.3 and as worked out by him, this comes to 0.5. By adoption of this proportion factor 0.5 during September, it is possible to impound an additional quantity of 5,000 M.C.ft.

The Chief Engineer, Irrigation and Public Health, enquired as to why we should take up the case of only one month.

The Chairman replied that as already explained by him, September was the transition period and additional supplies were badly needed in the reservoir due to low inflows in the river during the month.

The Secretary added that since Madras had their Mettur reservoir which would invariably be full during September, they could regulate the supplies from the reservoir so as to maintain the required gauges at upper anicut and give some relief to Mysore.

The proposal of the Chairman to ask the Madras Government for reduction in the proportion factor during September after working out necessary details with available data was agreed to.

Subject No. 9—Upper Pennar Project—Composite Madras State.—The Chairman's note indicated that the draft agreement relating to the construction of the project already finalised may be signed and ratified by both Governments.

This was agreed to.

Reverting to the subject of 1924 Cauvery Valley Agreement, the Chairman stated that the construction of additional reservoirs at the Harangi, the Hemavathi and other projects, should be implemented as early as possible.

The Hemavathi project had been referred to the Planning Commission and this should be arranged to be included in the Second Plan itself.

It was agreed that no efforts should be spared to implement the development of 1,10,000 acres under additional reservoirs permitted by the agreement and Hemavathi and Harangi projects should receive the first priority and possibility of a reservoir across Cauvery river near Coorg frontier also investigated.

Proceedings of the Sixth Meeting of the Ad-Hoc Committee for the review of Inter-State Agreements held on 13th May 1959 at 9 a.m.

Present :

1.	Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer.	Chairman.
2.	Sri G. S. Ganapathy, C.E., Chief Engineer (General).	Member.
3.	Sri M. H. Manchigiah, B.E., A.M.I.E., Chief Engineer, Irrigation and Public Health.	Member.
4.	Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects.	Member.
5.	Sri K. Padmanabhan, B.E., Under Secretary to Government, P. W. D.	Secretary.
6.	Sri C. S. Bhimasenachar, B.E., Assistant Engineer.	Asst. Secretary.

Sri J. L. D'Sa, B.E., B.SC.(Hons.), A.M.I.E.E., M.I.E.(Ind.), Chief Engineer, Electricity, Mysore State Electricity Board, and Sri M. V. Aswathanarayana Setty, B.SC., B.E., Chief Engineer-in-charge, Hydro-Electric Construction Projects, were also present on invitation.

Sri L. C. Muniswamy Reddy, B.A., B.E., Special Chief Engineer, Sharavathy Hydro-Electric Project, who had also been invited, intimated his inability to attend the meeting as he had to meet the Chairman, Central Water and Power Commission, at Jog.

1. *Confirmation of the proceedings of the fifth meeting held on the 4th May* 1959.—The proceedings of the Committee were confirmed as per the copy circulated among the members.

2. *Moyar Hydro-Electric Scheme of Madras State.*—The Chairman drew reference to the main features of the Moyar Scheme as per his note. By taking up this scheme, Madras Government had intercepted and diverted a portion of the flow in the Moyar river which formed the common boundary between Madras and Mysore, for a distance of 16 miles. The case was analogous to that of Sivasamudram where, for diverting a portion of the flow in the Cauvery river, Mysore had to pay royalty to Madras Government. The contention of Madras was that the flow utilised by them for power generation at Moyar was less than half the river flow, but Mysore argued that it could be more. The exact quantity could be established only by conducting necessary gaugings.

The Chief Engineer, Irrigation and Public Health, stated that we must see that gaugings are taken up immediately.

The Secretary explained that an estimate amounting to Rs. 2.06 lakhs had been got up for conducting current meter gaugings for a period of three years, but later on it was found that current meter gaugings were not possible on account of the steeply rising banks of the river on either side. The Madras Government had suggested an estimate of Rs. 32,000 for putting up a weir with V notch at the site for measuring the summer flow and to calibrate the weir by current meter gaugings for higher flows and

to have an automatic gauge recorder at a site about half a mile upstream of Moyar Power House, which we have accepted.

The Chief Engineer, Electricity Board, referred to the meeting held in this connection between the representatives of Mysore and Madras during 1958 and wanted to know whether any agreement had been arrived at.

The Chairman replied that it was only an informal meeting and it was agreed during the meeting that gauging should be done. Continuing, he pointed out that as Madras had completed the scheme, they were not keen on taking any further steps. It is, therefore, necessary that we should insist on taking up the gaugings early. It was agreed that the concerned Chief Engineer should take early action in the matter and finalise the issue as already a lot of time had been lost.

3. 1900 *and* 1936 *Agreements between Mysore and Madras Governments relating to Sivasamudram Hydro-Electric Scheme.*—The Chairman explained that these agreements were entered into between the Governments of Mysore and Madras for the utilisation of the Cauvery Falls to generate electricity at Sivasamudram. This agreement permitted the use of the whole of the water power for power generation under certain conditions which included the payment to Madras Government of a royalty of Rs. 5 per E.H.P. on half the power generated. This agreement was revised in December 1936 providing for a fixed sum of royalty of Rs. 20,000 per annum. With the integration of Kollegal Taluk with Mysore on 1st November 1956, the Madras portion of the river had now come over to Mysore and the question of payment of royalty does not arise.

The note furnished by the Chief Engineer, Electricity Board, was then read. This note indicated that the payment of even this royalty of Rs. 20,000 per annum was stopped from the date of the States' Reorganisation (*viz.*, 1st November 1956) as intimated to Madras Government in letter No. PWD 1—SIV 57, dated 11th February 1957.

It was agreed that this agreement becomes inoperative from 1st November 1956. The question of payment of Rs. 20,000 to Madras ceases from 1st November 1956.

4. 1939 *Agreement between Mysore and Bombay Governments relating to the Jog Hydro-Electric Scheme.*– The Chairman stated that under this agreement, Mysore agreed to supply power to certain areas in the Bombay State from the Mahatma Gandhi Hydro-Electric Works. These areas have now come over to Mysore after the States' Reorganisation. The point at issue now is whether power is still being supplied to areas in Bombay outside the present Mysore State in which case the agreement requires revision.

The Chief Engineer, Electricity Board, stated that as indicated in his note, the entire system of Jog Karnatak grid was taken charge of by the Mysore Electricity Department from 1st April 1957 under the States' Reorganisation and that all the power supply is now confined within the jurisdiction of enlarged Mysore and the power supplied was of the order of 10,000 K.W.

It was agreed that the agreement becomes inoperative from 1st November 1956.

Mekedatu Scheme.—Incidentally in connection with the discussion on agreement relating to the Hydro-Electric Schemes, the question of Mekedatu Scheme was also taken up. The Chairman stated that he had seen from reports that there was a proposal to generate 26,000 H.P. at Mekedatu. This scheme envisaged the utilisation of about 2,400 cusecs flow at Mekedatu for generation of power out of which 900 cusecs would be from the tail race of Shimsha and Sivasamudram Stations. The balance of 1,500 cusecs was proposed to be secured by the construction of reservoirs across the Shimsha and Arkavathi and also a reservoir across the Cauvery just above Mekedatu.

The Secretary stated that negotiations had been going on with the Madras Government and in the last Conference in 1951 certain conclusions were reached relating to sharing of cost of the scheme, supply of power to Madras Government, but that no agreement had been drawn up.

The Chief Engineer in charge, Hydro-Electric Construction Projects, explained that the Mekedatu scheme did not receive priority as it was found to be very uneconomical, the cost going up to Rs. 2,000 per K.W of generation.

There was no likelihood of its being included even in the Third Plan or at any rate till the completion of the other schemes such as the Sharavathy Valley Project, etc., which are more remunerative.

The Chairman stated that the Mekedatu Scheme had other inherent disadvantages inasmuch as the storage secured in Mysore reservoirs at great cost will have to be passed on for the benefit of Madras. Further, the construction of any reservoir across the main river Cauvery above Mekedatu requires the previous consent of Madras Government as per the 1924 agreement. The Mysore Government had also other important schemes such as the Barapole Scheme in Coorg, the Kalinadi Scheme, the Varahi Scheme, etc., for further development of power. Under these circumstances, the question of Mekedatu Scheme may not come up for the consideration of Government in the near future.

At this stage, a doubt was raised as to what the position would be if the Madras Government were prepared to take the power notwithstanding the heavy cost.

The Secretary pointed out that as Kollegal Taluk has now come over to Mysore, the whole of the Mekedatu area is in Mysore territory. As such, the conclusions reached during 1951 should be treated as null and void, and that Mysore should have her full rights on the project.

The Chairman stated that whatever be the other factors, since Kollegal is now part of Mysore, this State had the full rights for the use of the Cauvery waters at Mekedatu and this right will have to be maintained.

It was accordingly agreed that as regards the conclusions arrived at during 1951, these will have to be considered in the light of the changed circumstances and the whole issue and scheme taken up " de novo " when found necessary. Since the Mekedatu Hydro-Electric Scheme is a comparatively costly one and uneconomical and as there are several Hydro-Electric Schemes on the anvil for developing power in the State at a cheaper cost, it is the opinion of the Committee that priority should be given for irrigation and water supply schemes in Shimsha and Arkavathi valleys.

Barapole Project.—The question of Barapole Project was next taken up. The Chairman stated that according to the printed report, this project in Coorg District envisaged the development of 1,79,700 K.W. of power in the final stage, utilising 25,000 M.C.ft. of storage with 710 cusecs continuous discharge.

The tail waters from the power station could be utilised in Kerala State to irrigate 30,000 acres. He wanted to know at what stage the implementation of the project stood at present.

The Chief Engineer in charge, Hydro-Electric Construction Projects, stated that as matters stood at present, there was no indication of the project being taken up immediately. The Kerala Government had requested that the possibilities of constructing a small reservoir for irrigation purposes may be investigated and this was being done at the cost of the Kerala Government.

The Chairman pointed out that the move to have a storage reservoir in Mysore for irrigation in Kerala was against the interests of Mysore and should not be agreed to.

The Chief Engineer (General) asked why we should construct a reservoir in Mysore if it is not going to benefit us at all.

The Chief Engineer, Electricity Board, suggested that if a reservoir is going to be constructed, it may be built to the full height required for the Hydro-Electric Project, once for all.

The Chairman stated that since the Kerala Government is interested in the implementation of the project, it may be developed to the full capacity and taken up as a joint venture. Mysore's rights in so far as Barapole scheme is concerned should be established and it should be included in the Third Plan.

It was agreed that the Barapole Hydro-Electric Scheme should be taken up as a joint venture and efforts made to get it included in the Third Plan.

5. 1892 *Agreement between Mysore and Madras.*—The Chairman explained tthat this agreement enunciated the broad principles on which future irrigation works had

to be taken up in Mysore. It also formed the basis for the subsequent agreements entered into in respect of individual valleys. The major river valleys in Mysore, *viz.*, the Cauvery and Tungabhadra valleys have since been covered by separate agreements while the remaining valleys, *viz.*, Palar, Pennar, etc., have practically no scope for new irrigation. Though individual agreements have been concluded in so far as the major valleys are concerned, the 1892 agreement contained certain other provisions such as restoration or replacement of existing works by new ones, etc.

It was agreed that the agreement may stand as it is without alteration.

6. *Diversion of waters of Jayamangali river at the Rampur anicut*—1944 *Agreement.*—The Chairman stated that all the outstanding issues in regard to this dispute had been settled and an agreement drawn up during 1944 except for Clause (c) relating to gaugings. This agreement is, therefore, not yet ratified by the two Governments. The method of gaugings, etc., have also been discussed at the meeting of the Chief Engineers of Mysore and Andhra held on 24th February 1959 and it has been agreed to establish observation sites along the river instead of regular gaugings. The Chief Engineer concerned will have to take further action and see that necessary information is collected early and the agreement finalised.

This was agreed to.

7. *Suvarnamukhi Anicut—Distribution of water between Kittagali tank (Mysore State) and Agali tank (Madras State).*—The Chairman stated that his note explained the present position in regard to this dispute. Though an agreement was entered into during 1935 between Mysore and Madras Governments on the distribution of supplies to the two tanks, the same was not implemented properly by the Madras Government. They had not provided any scouring sluice for the Agali anicut and had allowed the Agali channel to be silted up. This question had been taken up by the Chief Engineers of Andhra Pradesh and Mysore States at the Conference during February 1959, at Hyderabad, and according to the decision arrived at then, it was proposed to implement

the already concluded agreement of 1935, after full hydraulic particulars were established with the present conditions.

This was agreed to.

8. *Construction of an anicut across North Pennar river near Thimmanahalli in Nagalamadike Hobli, Pavagada Taluk.*—The Chairman stated that this is a new work proposed to be constructed in the 1892 agreement zone. The actual quantity of water available has to be assessed and the Chief Engineer has made arrangements for conducting gaugings. The project has to be finalised by the Chief Engineer after the exact quantity of flow available at the site is assessed and further action taken to get the concurrence of Andhra Government.

This was agreed to.

9. *Construction of an anicut across the Chitravati river and opening a feeder channel on the right bank to feed seven tanks in Bagepalli Taluk.*—The Chairman explained that the opening of the feeder channel was necessary to make up for the lost capacities of the tanks which had become heavily silted up. The desilting of the tanks or increasing the capacity by raising of the bund, etc., were found to be prohibitively costly. So long as we do not increase the capacities of the tanks or increase the atchkat under the tanks, the Andhra Government have no cause for complaint. Any direct atchkat proposed under the feeder channel may be omitted. The Chief Engineer may take up the issue on these lines and see that the project is implemented.

This was agreed to.

Proceedings of the seventh meeting of the Ad-Hoc *Committee for the Review of Inter-State Agreements held on the 23rd May 1959 at 9 a.m.*

Present:

1 Sri H. Ananthachar, B.E., A.M.I.E.,
Retired Chief Engineer. Chairman.

2. Sri G. S. Ganapathy, C.E.,
Chief Engineer (General) of Mysore. Member.

3. Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health. — Member.

4. Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects. — Member.

5. Sri C. S. Bhimasenachar, B.E., Assistant Engineer. — Asst. Secretary.

Sri H. Channaiah, B.E., Executive Engineer, Krishnarajasagar Division, was also present on invitation.

1. *Confirmation of the proceedings of the sixth meeting held on 13th May* 1959 :

The proceedings were confirmed with certain minor alterations under the subject of 1892 Agreement (page 7 of the proceedings) as suggested by the Chief Engineer, Irrigation and Public Health. It was also agreed that the following para should be added under the subject of Mekedatu scheme (Page 5):

"Since the Mekedatu Hydro-Electric Scheme is a comparatively costly one and uneconomical and as there are several Hydro-Electric Schemes on the anvil for developing power in the State at a cheaper cost, it is the opinion of the Committee that priority should be given for irrigation and water supply schemes in Shimsha and Arkavathi valleys."

2. *Increasing the capacity of Hudavathy Nagasandra Sannakere (R. No. 3) of Goribidanur Taluk*:

The Chairman stated that as seen from records, the tank was in the agreemental zone and there was a proposal to increase the capacity of the tank to 32 units against the original capacity of 23 units. The tank had a catchment of 1.1 square miles and from the nature of catchment, it was doubtful whether 32 units could be realised. It was, therefore, best to restore the tank to its original capacity of 23 units.

This was agreed to.

3. *Minor subjects under correspondence with Madras and Andhra Governments* :

The Chairman stated that these subjects (as per list furnished) were all minor subjects under correspondence with Madras and Andhra Governments. They could be finalised only after further correspondence and joint discussion, if necessary, with the Chief Engineers of those States. The Chief Engineer may, therefore, take further action in the matter to finalise them.

This was agreed to.

4. *Further discussion on the Cauvery Valley agreement* (1924):

The Chief Engineer, Irrigation Projects, stated that he had a set of working tables prepared to see the effect of abstracting about 1,000 cusecs in the river for irrigation under the proposed Hemavathi reservoir. The tables showed that this abstraction had no material effect on the impounding in Krishnarajasagara, the deficit even during bad years being only about 3,000 M.Cft.

The Chairman pointed out that the working tables provided for the abstraction of natural flows in the river below the limits fixed, but this was not permitted according to the agreement. The whole basis of the agreement was that we should not interfere with the natural flows in the river up to the limit gauges and impoundings start only when it is above the limit gauges as fixed in the agreement.

The Chief Engineer, Irrigation and Public Health, also agreed that the natural flows in the river (below the limits fixed) cannot be impounded in the additional reservoirs and that for storage purposes, the dam comes into existence only when the flow in the river is above the limits fixed. Continuing he stated that though it looks on paper that we have been allowed to develop 1,10,000 acres, the restrictions on impounding have heavily curtailed the chances of further development of irrigation in Mysore. Since Madras is also to develop a large extent including 3,01,000 acres under Mettur, it is only just and fair that these restrictions should go and Mysore allowed to develop its irrigation fully. He felt that the agreement should be modified accordingly.

The Chief Engineer (General) also felt that some relaxation was necessary in the terms of the agreement to enable Mysore to develop the extent permitted.

It was accordingly resolved as follows:—

"Though according to the 1924 agreement, Mysore is permitted to develop 1,10,000 acres under additional reservoirs, the restriction imposed as to the method of impounding, etc., gives only an average storage of about 25,000 M.Cft. Even this quantity is not being realised in some years and in fact there are years when this is nil. Mysore is very hard hit on this account. The Committee, therefore, feels that apart from changing the rules of impounding, the agreement requires suitable revision for accommodating the development of 1,10,000 acres."

The Chairman stated that when the upper reservoirs come up, these should be sponsored only on the basis that the irrigation requirements of existing lower anicuts and reservoirs are fully safeguarded and in the event of low supplies in the river in any year, priority should be given to irrigation under the existing reservoirs and anicuts in preference to new ones. For example, when Hemavathi reservoir comes up, the rights of existing irrigation under Krishnarajasagara should not suffer.

It was agreed that irrigation under existing reservoirs and anicuts should receive first priority and the development of irrigation under new reservoirs suitably adjusted.

Proceedings of the eighth meeting of the Ad-Hco Committee for Reviewing Inter-State Agreements of River Valleys held on 8th June 1959 at 8-30 a.m.

Present:

1. Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer. — Chairman.
2. Sri G. S. Ganapathy, C.E., Chief Engineer (General) of Mysore. — Member.
3. Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health. — Member.

4. Sri R. L. Raju, B.E.,
Chief Engineer, Irrigation Projects. Member.

5. Sri C. S. Bhimasenachar, B.E.,
Assistant Engineer. Asst. Secretary.

1. *Confirmation of the proceedings of the seventh meeting of the Committee held on 23rd May* 1959 :

The proceedings were confirmed after further discussions on the 1924 agreement, the resolution being finally modified as follows :—

" Though according to the 1924 agreement, Mysore is permitted to develop 1,10,000 acres under Additional Reservoirs, the restriction imposed as to the method of impounding, etc., gives only an average storage of 25,000 M.Cft. Even this quantity is not being realised in some years and in fact there are years when this is nil. Mysore is very hard hit on this account. The Committee, therefore, feels that apart from changing the rules of impounding, the agreement requires suitable revision for accommodating the development of 1,10,000 acres."

Proceedings of the ninth meeting of the Ad-Hoc Committee for the Review of Inter-State Agreements of River Valleys on 22nd June 1959.

Present :

1. Sri H. Ananthachar, B.E., A.M.I.E.,
Retired Chief Engineer. Chairman.

2. Sri G. S. Ganapathy, C.E.,
Chief Engineer (General) of Mysore. Member.

3. Sri C. S. Bhimasenachar, B.E.,
Assistant Engineer. Asst. Secretary.

Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health, and Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects, could not attend the meeting as they were on tour.

Sri Basharath Ali, B.E., Deputy Chief Engineer, attended the meeting on behalf of the Chief Engineer, Irrigation Projects.

1. *Confirmation of the proceedings of the eighth meeting held on 8th June 1959 :*

The proceedings were confirmed by the Chief Engineer (General) and the Deputy Chief Engineer. Sri Basharath Ali stated that he had also been authorised to confirm the proceedings.

2. *Consideration of the draft report of the Committee :*

The Chief Engineer (General) stated that the consideration of the report could be taken up at the next meeting of the Committee when all the members would be present.

The Chairman stated that the Government were keen on having the report early and as the draft report was also ready, it was no longer desirable to delay its submission to Government. He also pointed out that even after the report was approved by the members, it would take some time for the fair copy to be typed and submitted with the necessary appendices and plans, etc. The period of the Committee would expire on 14th July 1959 and it may not be possible to send up the report within that time.

The Chief Engineer (General) stated that under the present circumstances, it is desirable to address Government to extend the period of the Committee

It was accordingly resolved that Government may be addressed to extend the period of the Committee for one month from 14th July 1959.

Proceedings of the tenth meeting of the Ad-Hoc *Committee for the Review of Inter-State Agreements of River Valleys held on 6th July 1959 at 9 a.m.*

Present :

1. Sri H. Ananthachar, B.E., A.M.I.E., Retired Chief Engineer. — Chairman.
2. Sri G. S. Ganapathy, C.E., Chief Engineer (General) of Mysore. — Member.

3. Sri M. H. Manchigiah, B.E., M.I.E., Chief Engineer, Irrigation and Public Health. — Member.

4. Sri R. L. Raju, B.E., Chief Engineer, Irrigation Projects. — Member.

5. Sri K. Padmanabhan, B.E., Under Secretary to Government, Public Wroks Department. — Secretary.

6. Sri C. S. Bhimasenachar, B.E., Assistant Engineer. — Asst. Secretary.

1. *Confirmation of the proceedings of the eighth and ninth meetings of the Committee held on 8th June 1959 and 22nd June 1959* :

The proceedings were confirmed after a short discussion on the resolution relating to the 1924 agreement.

2. *Consideration of the draft report of the Committee* :

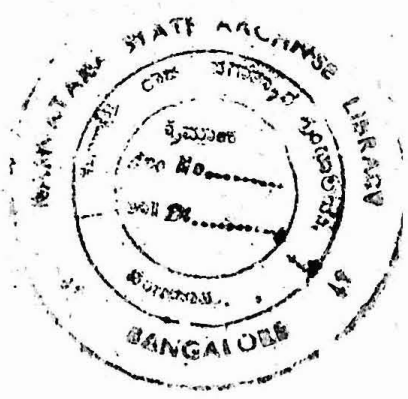
The first four chapters of the report were gone through and were approved after some minor corrections and additions wherever necessary.

Under Chapter V, the reviews relating to (1) Sharing of Krishna Waters and (2) Sharing of Godavari waters were next discussed and approved.

The review on the subject of "Koyna Project" of Bombay was next taken up. The Chief Engineer, Irrigation Projects, pointed out that the Technical Report did not indicate the exact quantity of water available in Koyna river and the quantity proposed to be utilised by the Bombay Government, under the Koyna project. The Chairman replied that the report was based on the latest information made available and so far as this Government is concerned, our claim is for 46 T.M.Cft. from the Koyna waters which had been ear-marked previously by Bombay Government for irrigation in Bijapur District and this has to be allotted. This note was also approved after incorporating some corrections.

Incomplete

KSA LIBRARY, B'lore
B021858
351.86 RP 1960
II-34


KARNATAKA STATE ARCHIVES LIBRARY
BANGALORE